RAILROAD

35 CENTS MAGAZINE APRIL

IN THIS ISSUE **THE MAN RUSSIA WOULD FORGET** THE YANKEE GENIUS WHO BUILT THE CZAR'S FIRST RAILROAD

NO MONEY DOWN!

Order Any Item on this Page

ON CREDIT!

Send No Money! No Down Payment required. If you're a reliable person, YOUR CREDIT IS GOOD WITH US. Make small monthly payments *after* you see your selection.

10 DAYS FREE EXAMINATION

Easy Monthly Payments

Mail coupon below today with your selection. Examine it in your home for 10 days. Then, either pay in monthly installments or return selection to us.

All Prices Include Federal Tax.

17 JEWELS

K312 **29.75**

SELF-WINDING · WATER AND SHOCK-RESISTANT

Winds Itself

Water-Resist

Shock-Resist

Sweep-Second · Anti-Magnetic
Steel Back · Radium Dial
Dustproof Case · Expansion Band
NO MONEY DOWN.
Pay Only $3 a Month.

M202

35.75 Bulova "Director." 15 Jewels. Yellow rolled Gold plate case. Expansion band. NO MONEY DOWN. Pay Only 3.60 a Month.

Bulova "Miss America." 17 Jewels. Yellow rolled Gold plate case. Expansion band. NO MONEY DOWN. Pay Only 3.60 a Month. **35.75**

R173

P308

A Glorious Gift for HER

3-PIECE RHINESTONE SET

17 Jewel Rhinestone Watch, matching Rhinestone Necklace and Earrings in a completely matched Ensemble. Finished in gleaming Rhodium. Sensational low price! *NO MONEY DOWN.* Pay Only $3 a Month.

L. W. Sweet

Founded in 1878

MAIL ORDER DIVISION, FINLAY STRAUS, INC.
25 W. 14th St., NEW YORK 11, N. Y. (Dept. PF152)

P24 **17.50**

2 Carat genuine Zircon. Diamond-like brilliance. 14K yellow Gold. *NO MONEY DOWN.* Pay Only $2 a Month.

A104/C53 **59.50**

6 Diamond Bridal Set with exclusive lock feature. 14K yellow or 18K white Gold. *NO MONEY DOWN.* Pay Only 5.95 a Month.

D101 **29.75**

Men's Diamond Ring. Brilliant Diamond, 2 simulated Rubies. Set in 14K yellow Gold. *NO MONEY DOWN.* Pay Only $3 a Month.

L. W. Sweet, Dept. PF152
25 W. 14th St., New York 11, N. Y.

Send me No._____, Price $_____. Unless I return my selection to you in 10 days, I agree to pay $_____ per month until full price is paid.

My Name_____

Address_____

City_____ State_____

Age_____ Occupation_____

MASQUERADE HOLDS MORE THAN ONE SURPRISE

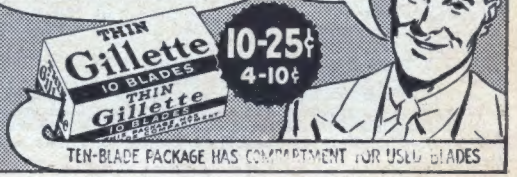
WHILE MOST OF THE GUESTS OF LORIMER DAVIES, WEALTHY MANUFACTURER, ARE ENJOYING HIS MASQUERADE PARTY, "CAPTAIN KIDD" SEEMS TO HAVE ENCOUNTERED TROUBLE...

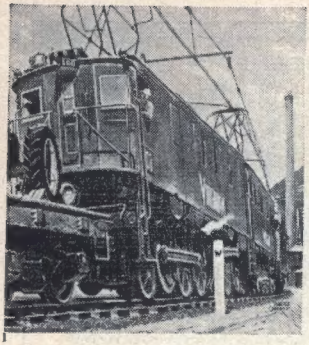
WHERE'D YOU GO, LEFTY? THE BOYS'LL HAVE THE CAR AT THE GATE IN 10 MINUTES. WE'VE GOTTA WORK FAST
OKAY. LET'S GO
15 MINUTES LATER
LINE UP, FOLKS! THIS IS A HOLDUP! COVER THE DOOR, LEFTY!
I'M COVERING YOU, CLOWN! DROP THAT GUN!
WE'VE GOT THE OTHERS, LIEUTENANT. HERE ARE THE CLOTHES YOU LEFT OUTSIDE
GOOD! TAKE THIS BIRD ALONG. I'LL BE DOWN AFTER I CHANGE

BUT, DAD, HOW...?
LIEUTENANT ROGER'S STORY CAN WAIT TILL HE SHEDS THAT COSTUME. FOLLOW ME, "CAPTAIN KIDD"
HERE'S THE CURE FOR YOUR WHISKERS
THANKS, MR. DAVIES
WHAT A SWELL BLADE! TWO DAYS' STUBBLE GONE LIKE MAGIC!
THIN GILLETTES HAND OUT QUICK, EASY SHAVES EVERY TIME

I KNEW LEFTY WAS COMING AS "CAPTAIN KIDD", BUT I COULDN'T IDENTIFY HIS PAL, SO...
GREAT WORK!
JUST THE CHAP TO HEAD UP OUR ATOMIC SECURITY FORCE
M-M-M-HANDSOME

YOU ENJOY SMOOTHER, BETTER-LOOKING SHAVES AT A REAL SAVING WITH THIN GILLETTES. NO OTHER LOW-PRICED BLADE APPROACHES THEM FOR KEENNESS AND LONG LIFE. THIN GILLETTES ARE MADE TO FIT YOUR GILLETTE RAZOR TO A "T"... PROTECT YOU FROM THE SCRAPE AND IRRITATION OF MISFIT BLADES. ASK FOR THIN GILLETTES IN THE CONVENIENT 10-BLADE PACKAGE





RAILROAD

MAGAZINE

Originally Railroad Man's Magazine, founded 1906

April, 1952 *Vol. 57, No. 3* *35 Cents*

Cover: *Jack-shaft electric (Virginian)*
By *Herb Mott*

ILLUSTRATED FEATURES

Annual Speed Survey ..... *Donald M. Steffee* 14
The Man Russia Would Forget ..... *C. C. Hanks* 52
Seaboard's Green Gold ..... *James B. Craig* 62
Diesel Fuel Oil System *(Part 1)* ..... *Drawings by Henry B. Comstock* 70
Up-and-Down Railway ..... *Ted Sanchagrin* 92
The Train That Never Came Back ..... *Earl Clark* 106

TRUE TALES

The General Manager's Story *(Conclusion)* .... *E. G. Burdick and Bill Knapke* 80

FICTION

The President's Special ..... *George C. Slawson* 118

SHORT HAULS

The Customer Is Sometimes Wrong ..... *Bozo Texino* 6
The Broad Pass Bear ..... *George Jennings Gale* 12
Along the Iron Pike ..... *Joe Easley* 60
Locomotives of the Wabash Railroad 112
Fiddletown & Copperopolis *(No. 44)* ..... *Carl Fallberg* 126

DEPARTMENTS

Information Booth ..... *Conducted by Alfred Comstock* 75
Carbarn Comment ..... *Steve Maguire* 101
On the Spot 127
Railroad Camera Club *(An Editor Speaks, Garber)* 138

EDITOR: K. M. Campbell

ASSOCIATE EDITOR: Ted Sanchagrin · **ART EDITOR: George H. Mabie**

ELECTRIC LINES: Stephen D. Maguire **ED. ASST.: Martha Sobolevitch**

Any resemblance between any character appearing in fictional matter, and any person, living or dead, is entirely coincidental and unintentional.

Published monthly by Popular Publications, Inc., at 1125 E. Vaile Ave., Kokomo, Indiana. Editorial and Executive Offices, 205 East 42nd Street, New York 17, N. Y. Henry Steeger, President. John J. McVarish, Treasurer. Entered as second-class matter at the Post Office at Kokomo, Indiana. Copyright, 1952, by Popular Publications, Inc. This issue is published simultaneously in the Dominion of Canada. Copyright under International Copyright Convention and Pan-American Copyright Conventions. All rights reserved, including the right of reproduction, in whole or in part, in any form. Title registered in U. S. Patent Office. Single copy, 35c. Annual subscription for U. S. A., its dependencies, and Canada, $3.50. Other countries, $1.00 additional. All correspondence relating to this publication should be addressed to 1125 East Vaile Ave., Kokomo, Indiana, or 205 East 42nd St., New York 17, N. Y. When submitting manuscripts, enclose stamped, self-addressed envelope for their return, if found unavailable. The publishers will exercise care in the handling of unsolicited manuscripts, but assume no responsibility for their return. Printed in the U. S. A.

THE H. D. LEE CO., INC.

Kansas City, Mo. San Francisco, Calif. Minneapolis, Minn. Boaz, Ala. Trenton, N. J. South Bend, Ind.

WORLD'S LARGEST MANUFACTURER OF UNION-MADE WORK CLOTHES

I'LL PAY YOU

TO WRITE ORDERS FOR

KENDEX NYLONS

THAT ARE **FREE**

UNLESS SATISFACTORY!

REPLACEMENT OR A REFUND OF MONEY
Guaranteed by Good Housekeeping
IF NOT AS ADVERTISED THEREIN

Amazing, but true! The most sensational offer ever made!

Can you imagine how much money you could make writing orders for wonderful nylons that actually cost nothing unless satisfactory? Our leading Style 300 de luxe, first quality, full fashioned sheer nylons now reduced to only 98c a pair INCLUDING your commission, bonus and even postage. This stocking is so finely made—gives so much wear, that KENDEX will refund the full 98c purchase price if the hose runs, snags or shows undue wear within ONE AND A HALF MONTHS! Should that happen, the hose will cost the customer NOTHING!

This isn't selling. It's like giving something away! What woman could refuse to wear nylons at OUR risk? There's nothing for you to buy or deliver. You get advance cash on every order plus a huge bonus that increases your earnings by 40%!

FREE SAMPLE STOCKING

I'm so positive you can make money that I'm willing to give you a sample stocking, color card and all sales materials absolutely free! I'll even pay the postage. What's more, you need promise nothing. The whole outfit is yours and if you don't make enough money, just throw it away!

I don't care if you are 18 or 80—whether you can spare one hour or fifty hours a week. Man or woman—young or old—spare or full time—experienced or not, this can be the opportunity you have been hoping for.

If you write me quick, I'll also include complete money-making outfit of a wonderful line of men's hosiery actually guaranteed ONE FULL YEAR or replaced free without question!

MAIL THIS COUPON NOW!

Date.....

Michael H. Kent, President
Kendex Corporation
Babylon 99, N. Y.

Send me, absolutely free and postage prepaid, your complete money-making outfits including free sample stocking. It is understood I am under no obligation and if I am not satisfied with the money I make, I will throw away the outfits.

Name .....

Address .....

City..... Zone..... State.....

The Customer Is Sometimes Wrong . . .

BOZO TEXINO

I'M A RAILROAD engineer. I started the hard way, working on the section when I was 18 years old. I next took up firing a coal-burner locomotive with a shovel, when I was 19. I'm 58 now.

About 35 years ago I was firing the same run I'm engineer on today. You just work yourself up in no time at all on a railroad.

I've done about everything, from tamping a tie to handling the private car of the president of the U.S.A. It's much easier to tamp a tie than to pull the president's private car. While gandy dancing with the ties you don't have to be so particular and you don't have so many supervisors watching you. If you get the job done right nobody has anything to say, and nobody gives you a blueprint of what to do before you start.

Carpenters, bricklayers, miners, longshoremen, mostly take orders from one boss; but a locomotive engineer takes orders from everybody from the callboy to the president of the railroad, and sometimes you even get a reprimanding from some outsider.

I believe they take orders from more different bosses than any class of workers in the world. From the time you leave the terminal until you get to the end of your run you come under about 50 different directors.

I'm like Uncle Tom, the negro slave. I've been bossed so much and so long I wouldn't know what to do with freedom if I had it.

On the railroad I started working for, the stockholders furnished the railroad president with an elaborate private car to travel, work and live in, with a colored

WILL YOU BE CLIMBING? OR STUCK?

WHAT you'll be doing *one year* from today depends on what you do *today*.

Take advantage of today's opportunities and you're sure to move ahead. Put off doing anything about them and you chance being left behind.

The opportunities open to trained men are greater today than at any time in the past five years. Skilled technicians and specialists are the *men of the hour*. And thousands of them are I.C.S. students.

Start now! Study at home, in your spare time, with the world's largest school—I.C.S. Mail the coupon today for full information. It may be later than you think!

You get *BONUS CREDITS* for I. C. S. study. You can earn up to 9 units of credit toward an I. C. S. high school diploma while studying any regular course. Learn for job improvement with an I. C. S. specialized course and get high school credit at the same time. No extra cost. It's a bonus you get with I. C. S.

INTERNATIONAL CORRESPONDENCE SCHOOLS

BOX 3279-G, SCRANTON 9, PENNA.

Without cost or obligation, please send me full particulars about the course BEFORE which I have marked X:

- ☐ Accounting and Management
- ☐ Architecture
- ☐ Automobiles
- ☐ Chemical Engineering
- ☐ Civil Engineering
- ☐ Commercial Art
- ☐ Drafting
- ☐ Electrical Engineering
- ☐ High School
- ☐ Industrial Engineering
- ☐ Mechanical Engineering
- ☐ Plumbing
- ☐ Radio & Television
- ☐ Salesmanship
- ☐ Shop Practice
- ☐ Steam Engineering
- ☐ Textiles

Air Conditioning and Plumbing Courses
- ☐ Air Conditioning ☐ Heating
- ☐ Refrigeration ☐ Steam Fitting

Aeronautics Courses
- ☐ Aircraft Drafting, Design
- ☐ Aeronautical Engineer's, Jr.
- ☐ Engine Mechanic

Architecture & Building Trades Courses
- ☐ Architecture
- ☐ Architectural Drafting
- ☐ Building Estimating
- ☐ Contractor's Building
- ☐ House Planning

Art Courses
- ☐ Commercial Art
- ☐ Magazine Illustrating
- ☐ Show Card and Sign Lettering

Chemical Courses
- ☐ Chemical Engineering
- ☐ Chemistry, Analytical & Industrial
- ☐ Petroleum Production & Refining
- ☐ Plastics ☐ Pulp & Paper Making

Civil Engineering Courses
- ☐ Civil Eng'ring ☐ Highway Eng'ring
- ☐ Sanitary Engineering
- ☐ Structural Drafting
- ☐ Structural Engineering
- ☐ Surveying and Mapping

Communications Courses
- ☐ Telegraphy ☐ Telephony

Electrical Courses
- ☐ Electrical Drafting
- ☐ Electric Light and Power
- ☐ Lighting Technician
- ☐ Practical Electrician

Diesel Engine Courses
- ☐ Diesel Engines
- ☐ Internal Combustion Engines

Mechanical Courses
- ☐ Forging ☐ Foundry Work
- ☐ Heat Treatment of Metals
- ☐ Industrial Engineering
- ☐ Industrial Instrumentation
- ☐ Industrial Metallurgy
- ☐ Machine Shop ☐ Millwrighting
- ☐ Mold-Loft Work
- ☐ Patternmaking—Wood, Metal
- ☐ Reading Shop Blueprints
- ☐ Sheet Metal Worker
- ☐ Ship Drafting ☐ Ship Fitting
- ☐ Tool Designing ☐ Toolmaking
- ☐ Welding—Gas and Electric

Radio Courses
- ☐ Electronics
- ☐ FM and Television Servicing
- ☐ Radio, General ☐ Radio Operating
- ☐ Radio Servicing

Textile Courses
- ☐ Cotton Manufacturing
- ☐ Loom Fixing ☐ Rayon Manufacturing
- ☐ Textile Eng'r'g ☐ Woolen Manuf'r'g

Stationary Engineering Courses
- ☐ Power Plant Engineering
- ☐ Stationary Fireman
- ☐ Stationary Steam Engineering

Business Courses
- ☐ Advertising ☐ Bookkeeping
- ☐ Business Administration
- ☐ Bus. Correspondence ☐ Bus. Law
- ☐ Certified Public Accounting
- ☐ Commercial ☐ Federal Tax
- ☐ Fore'ship ☐ High School and College
- ☐ Industrial Supervision
- ☐ Motor Traffic ☐ Postal Civil Service
- ☐ Personnel—Labor Relations
- ☐ Retailing ☐ Retail Bus. Management
- ☐ Secretarial ☐ Stenography
- ☐ Traffic Management

Name_____ Age_____ Home Address_____

City_____ State_____ Working Hours_____ A.M. to_____ P.M.

Present Position_____ Employed by_____

Special tuition rates to members of the Armed Forces. Canadian residents send coupon to International Correspondence Schools Canadian, Ltd., Montreal, Canada.

cook and a colored valet to wait on him. We railroad men lived so far apart we had to chip in a dollar apiece to buy a horse for the callboy to ride, so we could get to the job on time and the trains would not be delayed.

I have always railroaded in a cattle country, where beef is king and the big ranch owners are the royal families.

This spring I was called for a three-unit Diesel, 65-car stock train. The caller told me I was getting Flap Jackson, my regular fireman, and Jughaid Jones, head brakeman. I'm still a country blue jeans steam hoghead at heart, but I have to run the new-fangled Diesels or take the railroad pension. Of course no hoghead ever thinks about the rocking chair until he's at least 89 years old.

When a hoghead bogs himself down in the sponge rubber upholstery of a Diesel cab that can be adjusted like a barber chair to any comfortable angle by just pulling a few gadgets, he feels as important as a new bellboy at the Ritz.

EVERY spring the stockmen ship their cattle to Oklahoma and Kansas to pasture, and the railroads try to put them there within 36 hours so they won't have to be unloaded, watered and fed. On a stock train you nearly always get rights over all except first class trains, and sometimes if you get late they put the passenger trains in the hole as you glide by with the southwest Texas cattle.

All the way from San Antonio to Austin I saw a big Cadillac convertible following us with a $2000 saddle and bridle in the back seat. The front seat was occupied by a stockman with a cowboy orderly for a chauffeur.

The highway parallels the railroad most of the way, and I could see the stockman was a Texas ranchman, and that he dressed the part. I could also tell he owned the stock by the interest he took watching the train from the Cadillac.

This story is mostly fiction, but to keep from getting shot I'll call this stockman Mr. 3X Jr.

I was stopped at Austin by a freight train which had two derailed cars caused by a broken flange on one of the wheels. I hadn't more than stopped before Mr. 3X Jr. climbed into the cab and asked what was wrong. I explained, and told him the switch engine was going to pull the two derailed cars down the main track so I could run around them on another track, that we wouldn't be delayed over 30-minutes and I was sure the railroads would get his cattle to their destination by the time they had promised him they would.

But that didn't seem to pacify Junior. My conductor, Gabby Robertson, was in the caboose on the other side of the Colorado River, walking the floor with blood in his eye wondering what was the matter with the head end. The bridge has no walkway and he was afraid to walk the top of the cars. It was up to me to take over, since the conductor was not around. If Gabby had been on the head end he'd have talked Junior to death.

Mr. 3X Jr. stomped his feet until the rowels in his spurs rattled so bad I was afraid he'd knock out the P.C. switch, ground relays and overspeed trips on the Diesel. He was afraid his cattle would starve to death in their railroad cow crates.

When something goes wrong with a Diesel, bells ring, whistles blow and the engineroom lights up like a juke box in a beer joint, to let the enginemen know something is wrong with the machinery, but fortunately nothing happened as the cattleman pawed and scraped his feet. He was so nervous he couldn't have held his foot on the deadman three minutes like I have to do all the time, and his chauffeur does on the $10,000 Cadillac gasoline feed pedal.

I wanted to be sociable and told him he had the finest herd of cattle I'd ever seen. He said they ought to be fine. Everything on his ranch were thoroughbreds—even the cats and dogs, horses, cattle, hogs, goats, sheep, cows, ducks, chickens and geese—all thoroughbreds. He said if he had a horse on his ranch that couldn't win the Kentucky he wouldn't even wait till

NOW, the pipe smoker's dream come true!

Every Pipeful Proves . . .

DR. PHILIP'S PIPE IS THE BEST!

The ideal pipe for the STEADY SMOKER, the NEW SMOKER and the man who doesn't like an ordinary pipe.

- NO BREAKING IN!
- READY-MADE CAKE!
- DOUBLE COOLING ACTION!
- CANNOT BURN THROUGH!
- FEATHER-WEIGHT!
- FLAT BASE, WILL NOT TIP!
- FINEST QUALITY IMPORTED BRIAR!
- INTERCHANGEABLE CERAMIC FILTER BOWLS!

This cross section shows the interchangeable inner ceramic bowl which burns tobacco dry, cool and clean. The bowl acts as a non-burning sponge that absorbs all of the tar and most of the nicotine. The metal radiator ring on top of the Dr. Philip's pipe is the only part that can get hot. It takes the heat from the ceramic and gives it off to the air FAST. The smoke circulates in the space between the inner bowl and the outer briar shell, becoming COOL before you draw it. Your tobacco cannot get wet because cotton or paper tissue packed in the space below the inner bowl absorbs all of the saliva and condensation. Rotate the ceramic bowls over and over again as you would a set of ordinary pipes. Dr. PHILIP'S pipe is EASY to CLEAN. There is no need to knock this pipe against any object to get out the ash. It does not form a cake. There is no need to rest the Dr. PHILIP'S pipe for cooling or drying. It has a constant capacity. The SHORT SMOKE MODEL will hold enough tobacco for a pleasure packed smoke of 15 to 25 minutes and the LONG SMOKE MODEL will last from 45 minutes to a full hour!

THE LONGER LASTING PIPE—YOU GET 4 EXTRA BOWLS!

SHORT SMOKE MODEL
Including 4 EXTRA BOWLS **only $4.50**

LONG SMOKE MODEL
Including 4 EXTRA BOWLS **only $5.50**

If not satisfied that this is the most amazing pipe you have ever owned, return within ten days and your money will be refunded!

QUALITY AGENCY
270 Park Avenue
New York 17, New York

Please send me postpaid.....DR. PHILIP'S pipe(s). I enclose $..... to cover the cost of the pipe(s) I have checked below.

☐ SHORT SMOKE MODEL including 4 EXTRA BOWLS @ $4.50
☐ LONG SMOKE MODEL including 4 EXTRA BOWLS @ $5.50

NAME .....

ADDRESS .....

CITY..... ZONE.... STATE.....
(Sorry, no C.O.D.'s) 4-52

sunup to shoot him. Junior wore his teeth parted in the middle and never smiled, but had a snarl on his face most of the time.

He said he met his wife when he graduated from Harvard Law School and she was a blue blood Virginian. He'd traced her pedigree back to the throne of England and she was a 42nd cousin to the Duke of Windsor. Which is not close enough to cause any kinfolk friction between the Duke and Junior. To hear him tell it his children had so much blue blood in their veins they must look like the indigo man in a Ringling Brothers Circus sideshow.

JUNIOR didn't say much about his own ancestry, but his great-great-grandfather probably got the fortune going by stealing horses and rustling cattle. But you could tell Junior would never die with a rope around his neck, because he had too much money and owned the county he lived in, including the judge, sheriff, courthouse and jail. He would never die with his boots on, either, because he was such an accurate marksman with a sixgun he'd make Buffalo Bill and Wild Bill Hickok look like tenderfeet boyscouts. He sleeps in a $3000, king-size bed and pulls his boots off with a $500 bookjack.

Junior told me his livestock had won more blue ribbons at stock shows than my three Diesels could pull. I had read about supermen in comic magazines, but this was the first time I'd ever done business with one.

He got down on the ground and started pawing up the rock ballast with his feet and I said to Flap Jackson, my fireman, he's going to scuff those boots and I'll bet they cost $500 apiece. We talked very low because he was all counterbalanced up with a pearl-handled .45 Colts on each hip, with gold and diamonds inlaid in the handles. His belt and holsters had so many gold and silver accoutrements on them that his gun outfit must have cost as much as a good size North Texas blackland farm. He had so many diamond rings on his fingers that the sparkle would have blinded me if I hadn't put on my sunglasses.

Junior wore a 7X beaver Stetson that had cost at least $500, with a gold hatband that was worth as much as the hat. He was dressed until he'd make Roy Rogers or any of the Hollywood cowboys look like a tramp. The rowels in his spurs with platinum points cost more than the combined wardrobe of the fireman, brakeman and hoghead. We were all three poor but contented with our stations in life, such as they were.

Junior was rich but he sure wasn't contented. While he was kicking up the rock ballast, Flap Jackson said he could understand why a T-bone steak in a first class beanery costs $4.50 and up. Someone has to pay for all that jewelry.

Just before we were ready to pull out, Junior swung up in the cab again and said if the railroads would take up their tracks and let him trail his cattle up the right-of-way he'd make better time. He said it with that sneer.

I asked him if he'd give me a job as trail driver, if the railroads did this, but he didn't seem to like this crack, and just gave me a dirty look as if to say you don't even know how to ride an iron horse on a steel highway, much less a wild mustang on the prairie.

I have never seen Junior anymore, and when I left Austin 35 minutes late he couldn't keep up in his Cadillac, even if General Motors made both our machines. I later learned from our livestock agent that the railroads got his cattle to Kansas one hour ahead of the scheduled arriving time.

However, Mr. 3X Jr. never did hunt me up and apologize for the bawling out he gave me about the poor service he thought he was going to get.

YOUR CHOICE OF TWO GREAT BOOKS

SON OF THE GIANT by Stuart Engstrand
(Published at $3.00)

"This was how it came to pass that Cliff fell in love with his father's wife . . ."

Cliff Kent was the son of Willis Kent, the biggest man in a small Missouri town. Willis was president of the bank, a deacon of the church, active in civic works, courtly, charming, and a most eligible widower. And it was plain to everyone that Cliff would "never be half the man his father was."

But what people didn't know was that father and son hated—detested—one another.

For a time the animosity between father and son, though nearly overpowering, was kept under control. But when the older man brought young, spirited Helen into their home, the house could not contain the passions her arrival aroused, and father and son became locked in deadly combat.

This is a story of tense power and drama, a thorough, fascinating examination into the soul of a son struggling against the deadly barrier of his father's power.

OR

INHERIT THE NIGHT by Robert Christie
(Published at $3.00)

It was sundown when Kurt Werden reached the tiny pueblo high in the Andes. He carried a heavy pistol and an old newspaper clipping which read, ENEMY LEADER DIES IN BESIEGED CITY. He demanded an impossible thing—to be taken to San Cobar.

The villagers had heard of San Cobar. The old legends said that it was a place of great wealth. But it lay beyond the mountains from which no man had returned alive. True, El Borracho, the drunken trader, had returned from his mysterious wanderings with rich ornaments, but he was now far gone in drink.

The stranger showed El Borracho more gold than he had ever seen, enough to make him forget the terrible mountain gales, the yawning crevasses.

What happened beyond the mountains is an unforgettable story—the story of an arch criminal alone among a strange people who did not know the meaning of suspicion, of fear, of hatred, of death, but who were to learn.

You can have either one of these books for only $1.00—over 60% less than the regular published price—by joining the MEN'S DOLLAR BOOK GUILD.

MEN'S DOLLAR BOOK GUILD

Yes- Only one dollar will bring you either one of these truly great stories for men. **Note:** You are not obligated, as in the case of many book clubs, to buy three, four, or six additional books! This is a special introductory, one-time offer, good only while our limited supplies last. At no cost or obligation to you, also, your name will be added to the list of the MEN'S DOLLAR BOOK GUILD and you will receive special notifications sent out on forthcoming book bargains. This service is entirely free and will not obligate you in any way. Send $1.00 for one book or $2.00 for both. NOW, before our supply is exhausted. **FILL IN THE COUPON TODAY!**

MEN'S DOLLAR BOOK GUILD
Suite 2005, Dept. D
205 E. 42nd St., New York 17, N. Y.

Enclosed please find ($1.00 ☐) ($2.00 ☐). Please send me:

☐ SON OF THE GIANT (Published at $3.00)
☐ INHERIT THE NIGHT (Published at $3.00)

This does not obligate me in any way to buy further books.

Name .....

Street and Number .....

City ..... Zone..... State.....

THE BROAD PASS BEAR

GEORGE JENNINGS GALE

MOST railroad stories are about train and enginemen, but I assure you that telegraph operators have just as many hair raising experiences, especially on the Alaska Railroad.

George Gore, first trick telegrapher at Broad Pass, had an experience the other evening worth recording. George took out his old Kentucky rifle and went hunting pine squirrels and about 3 miles north of Broad Pass, he stopped in to see Old Jake and have a few snorts of whisky. George then took up his long rifle and proceeded on his squirrel hunt, when he met a Toklat grizzly. Upon seeing a telegraph operator full of Scotch whisky and packing a Kentucky rifle, the bear took out after George, who lit out for the Union depot at Broad Pass.

Brakeman Bob Small saw George coming down the track with that Toklat right behind him and remembering a lot of lessons taught to him by Stanley Thomas, he began to think. First he let Gore go down the main line and then he threw the wye switch and made a drop of the grizzly. When the bear got around that wye and was headed backwards, he had to make the movement in reverse and then Bob figured that Gore could make the depot O.K. So he let the bear up the main towards the depot. You see, Bob did not want the Toklat banging around *him* too long either.

Now the Toklat was rapidly gaining on Gore, and George began whistling for the board. Telegrapher Bicknell gave him the green and then threw the board in stop position on the bear.

Bruin was pretty dizzy over the deal down at the wye and when the red board went on right in his face, he slid to a stop, and was he hot when he started into the depot after the operator as every one does when suddenly stopped by a redboard.

Another telegraph operator who had a most amazing experience at Broad Pass was Frank Davidson.

Frank was out hunting mountain sheep, the Dall variety, when he saw smoke coming out of a distant valley. To his surprise, he found it was coming up from a hole some two miles across.

Frank Davidson had the curiosity and nerve to start walking down through the big hole, and after a few miles he came to a pleasant land with a sun shining straight down from above.

This strange but bewitching land fascinated Davidson to the extent that he hurried on, and then it happened—snap-whip-bang and he was caught up in a game snare, hanging head down.

Davidson hung there for a few hours until the hunters came to the game snare and released him. These people were short and bronze-colored, resembling Amazon basin Indians. They took Frank to their village and tied him up with rawhide thongs.

The blazing hot sun came burning down and it dried all the moisture out of Frank's body. Then an old, old woman came and set a basin of cool water just out of his reach and left him there to suffer.

Davidson began praying for rain, and his prayers were answered with a torrent. But when the rawhide cords got wet they began to tighten, the one around his neck began choking him to death, slowly but surely. Again Frank began to pray, but then he felt so small for the wicked life he had lead that he began to shrink, and was soon able to slip out of his bonds.

Frank found his rifle and made haste for the upper crust, where he once more thought that he was a bigshot and increased to his normal size.

Well, I would like to see a bunch of train or enginemen equal the experiences of the Alaska Railroad telegraphers.

POWERHOUSE

● The mighty locomotive, working round the clock in all kinds of weather, provides the power that helps make possible America's tremendous production and distribution.

So it is in the public interest that railroads continue to increase their capacity and improve their facilities to serve the nation's needs. In the past six years, an average of more than a billion dollars a year has been invested in new locomotives and cars, new tracks, new terminals and other plant improvements.

The continuance of such investment in America's future depends upon the railroads' ability to earn adequate revenues, realistically based on the current cost of producing transportation service.

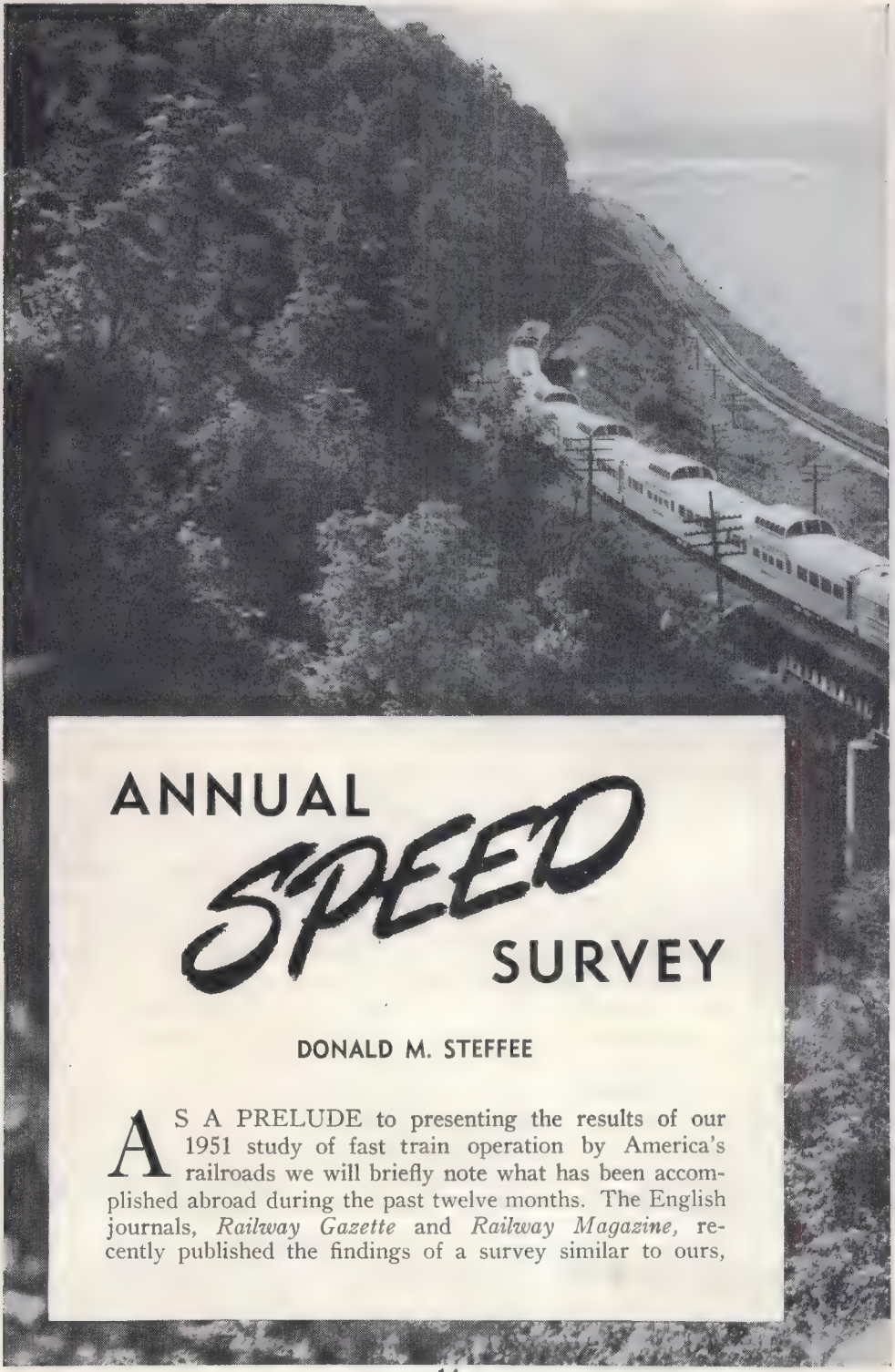
Railroad revenues last year fell far short of being adequate, and the reason is plain. Railroad wage rates and average prices of railroad materials have increased more than 130% since 1939. But the average revenue which railroads receive for hauling a ton of freight a mile has increased only 45% since 1939.

Because rail service is so vital, it is important to every American that railroads earn enough not just to keep going—*but to keep going ahead!*

ASSOCIATION OF AMERICAN RAILROADS

WASHINGTON 6, D. C.

Listen to THE RAILROAD HOUR every Monday evening on NBC.

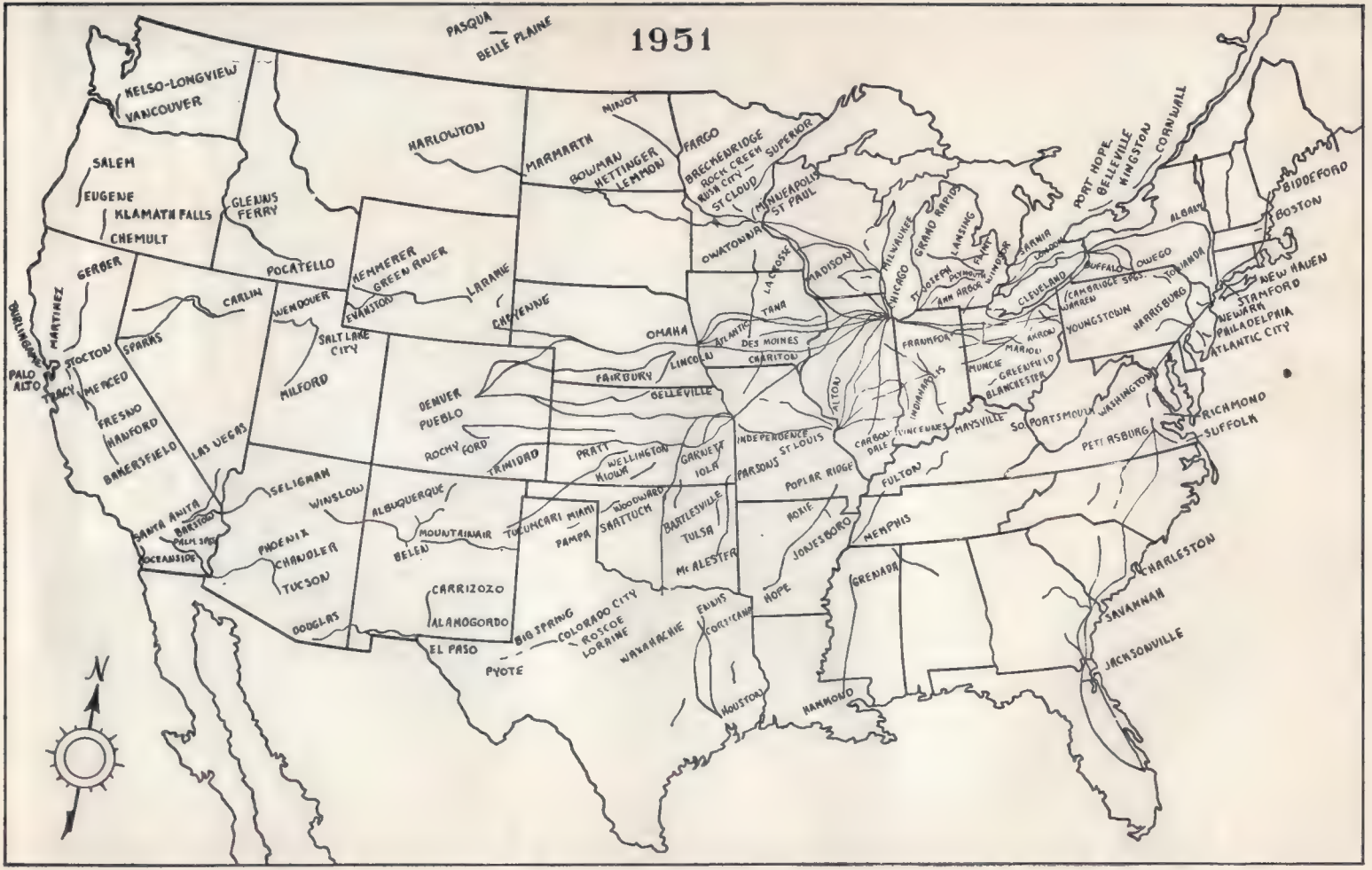


ANNUAL SPEED SURVEY

DONALD M. STEFFEE

AS A PRELUDE to presenting the results of our 1951 study of fast train operation by America's railroads we will briefly note what has been accomplished abroad during the past twelve months. The English journals, *Railway Gazette* and *Railway Magazine,* recently published the findings of a survey similar to ours,

THERE WERE no spectacular gains in 1951, nevertheless the railroads continued to make progress despite skyrocketing costs, increased operating ratio and adverse ICC rulings


1951
PASQUA
BELLE PLAINE
KELSO-LONGVIEW
VANCOUVER
SALEM
EUGENE
KLAMATH FALLS
CHEMULT
GLENNS FERRY
HARLOWTON
MARMARTH
MINOT
BOWMAN
HETTINGER
LEMMON
FARGO
BRECKENRIDGE
ROCK CREEK
RUN CITY
ST CLOUD
SUPERIOR
MINNEAPOLIS
ST PAUL
OWATONNA
LA CROSSE
MADISON
MILWAUKEE
CHICAGO
GRAND RAPIDS
LANSING
ST JOSEPH
PLYMOUTH
ANN ARBOR
TOLEDO
FARMER
LONDON
PORT HOPE
BELLEVILLE
WINGSTON
CORNWALL
ALBANY
BIDDEFORD
BOSTON
BUFFALO
OSWEGO
CLEVELAND
CAMBRIDGE SPGS.
WARREN
YOUNGSTOWN
HARRISBURG
NEW HAVEN
STAMFORD
NEWARK
PHILADELPHIA
ATLANTIC CITY
GERBER
MARTINEZ
BURLINGAME
PALO ALTO
TRACY
STOCTON
MERCED
FRESNO
HANFORD
BAKERSFIELD
SPARKS
CARLIN
WENDOVER
SALT LAKE CITY
MILFORD
LAS VEGAS
KEMMERER
GREEN RIVER
EVANSTON
LARAMIE
CHEYENNE
DENVER
PUEBLO
ROCKY FORD
TRINIDAD
OMAHA
ATLANTIC
DES MOINES
CHARITON
LINCOLN
FAIRBURY
BELLEVILLE
PRATT
WELLINGTON
KIOWA
GARNETT
IOLA
INDEPENDENCE
ST LOUIS
PARSONS
POPLAR RIDGE
CARBONDALE
EVANSVILLE
MOUNT VERNON
ALTON
FRANKFORT
MARION
MUNCIE
GREENFIELD
AKRON
BLANCHESTER
MAYSVILLE
SOUTH PORTSMOUTH
WASHINGTON
PETERSBURG
RICHMOND
SUFFOLK
FULTON
MEMPHIS
JONESBORO
HOPE
GRENADA
CHARLESTON
SAVANNAH
JACKSONVILLE
HAMMOND
HOUSTON
ELLIS
CORSICANA
WAXAHACHIE
BIG SPRING
COLORADO CITY
ROSCOE
LORAINE
EL PASO
PYOTE
DODGLAS
CARRIZOZO
ALAMOGORDO
SANTA ANITA
BARSTOW
SAN BERNARDINO
OCEANSIDE
SELIGMAN
WINSLOW
PHOENIX
CHANDLER
TUCSON
ALBUQUERQUE
BELEN
MOUNTAINAIR
TUCUNCARI
MIAMI
PAMPA
WOODWARD
SHATTUCK
BARTLESVILLE
TULSA
McALESTER
ROBIE
N

MAP AT *LEFT* shows increase of scheduled mile-a-minute start-to-stop runs over year 1936, when map *above* was made. Greatest advances have been in Midwest, but there have been improvements in Florida-New York service, also Chicago to San Francisco and Southern California

conducted by Cecil J. Allen, noted British authority on railroad and locomotive operation, of train speeds in Great Britain and on the European continent, the only places in the world outside the United States and Canada where trains regularly run at better than mile-a-minute average speeds.

Mr. Allen's survey reveals that from absolute zero on VE Day, European 60 mph. timings jumped to 197 separate start-to-stop schedules, totalling 14,975 miles in 1950. And as if this were not a remarkable recovery from the ravages of total war in five short years, they threw themselves into high gear during 1951 and boosted the figures to 320 runs and 23,407 miles in all—an increase of more than 55 percent. This represents a much greater improvement for a single year than American railroads have ever shown, even in the halcyon days of 1935-1942.

The peak of this performance is found in France, where the National Railways operate no less than 16 trains at better than 60 mph. over the busy electrified 195.3 miles between Paris and Dijon. Two trains make this run nonstop in 152 minutes—77.1 mph! This is a route comparable to some of our heavily traveled eastern mainlines and a few comparisons should be of interest, namely:

Paris-Dijon—
195.2 miles—152 min.: 77.1 mph. nonstop.
Buffalo-Collinwood—
174.7 miles—156 min.: 67.2 mph. nonstop.
Newark-Baltimore—
174.5 miles—159 min.: 65.8 mph. 3 stops.

In Italy, a timing of 113 minutes calls for a 72 mph. average between Milan and Bologna, 135.6 miles apart. This all but matches the New York Central's best time of 110 minutes (72.6 mph.) between Toledo and Elkhart. It is also of interest to note that the Swedish State Railways which operate under as severe winter conditions as the two Canadian systems, contribute 444 miles to the European total, while the famous *Talgo,* low-slung train carries the Spanish flag into the fray with two spurts, one at 65.2 mph. for 52.2 miles over track which would probably carry a 45 mph. speed limit in any American timetable.

After noting these remarkable achieve-

Chesapeake & Ohio

"ROUTE OF THE CHESSIES" is now out of the Detroit-Bay City competition, reports speed checker-upper Don Steffee. However, C&O still maintains some mile-a-minute runs, such as Lansing to Lake Odessa, Mich., which clocks at a respectable 63.3 mph.

Western Pacific

WESTERN PACIFIC speed dropped from a high of 67.8 in 1950 to 66.1 in 1951. But who wants to hurry through scenic Feather River Canyon, especially when the sights can be taken in from a vista-dome car? Since inauguration in 1949, "blistered" transcontinentals have made a name for themselves as just about the best thing for rubbernecks on steel rails

ments abroad and then examining the tabulation accompanying this article, the reader may well wonder at the seeming lack of progress shown by the railroads of America during the past year. What is the matter? Why have our railroads virtually marked time during 1951, while those of Europe have improved their highspeed schedules by 55 percent? Where is our vaunted enterprise and knowhow?

Without attempting to analyze the European developments, it might be said that their railroads have enjoyed an actual advantage during the past year or so. They have had to rebuild from the ballast up, and thus in five years many of the war-ravaged systems were able to boast new rail, new rolling stock and also new and improved signalling on not just one division or district at a time, but on a region-wide or even nation-wide scale. Thus the Europeans could go all out in inaugurating brand new highspeed schedules and better train service than ever before on many routes.

At the moment, American railroads are operating under far from ideal conditions. The problems they have faced in recent years seem to grow more difficult. One of the foremost, of course, is that of combatting the effects of inflation. Increased gross revenue is more than balanced by skyrocketing costs and rising operating ratio. Trains which once returned good profits when earning $2.00 per mile now must double this income in order to break even and stay on the timecard. Public service commissions view askance any request to

withdraw trains on remote branch lines, trains which serve sparse populations and which can never become profitable no matter what kind of rolling stock is furnished or how much schedules are improved. Income which might be used for new streamliners, highspeed signal systems and elimination of curves on the mainlines or important branches must be siphoned off to satisfy the local pride of people who never use the trains anyway.

THE GREATEST deterrent to further spectacular speed exploits in the United States seems to be the ICC's ruling that 79 mph. be top speed on lines not equipped with automatic train control or locomotive cab signals, and that 59 mph. must be tops for lines using ordinary block signals. Two years ago we noted how this ruling affected the crack Chicago-Denver schedules. Now several other streamliners are caught in the toils. The Illinois Central had to lengthen the *City of New Orleans* schedule by a half hour. However, loss of the crack 82.7 mph. Kankakee-Rantual run is compensated for in 80 timings on the Champaign-Centralia District by the *Cities of New Orleans and Miami* and the *Panama Limited,* as will be seen in the tabulation.

The Central of Georgia's appeal for relief from the ICC requirements was denied, and despite a 5-minute cut southbound from Atlanta to Macon, the overall time of the *Nancy Hanks II* had to be eased. And so it happens that this very fine train passes from the picture. The Central of Georgia did not let matters go at that, but quickened the daytime local train on the Savannah-Atlanta run along with speedups on several branch lines. This is creditable enterprise and we trust *Nancy* and the Central will soon be back in our tabulations. Likewise the Colorado & Southern, which entered the survey for the first time last year, vanishes as the *Texas Zephyr* had to be slowed a half hour each way on its Denver-Dallas run.

The Lackawanna, the Nashville, Chattanooga & St. Louis and the Norfolk & Western have all been ordered to comply with the *79 and 59* ruling if they wish to quicken passenger schedules. The Norfolk & Western's request for a 90 mph. limit on a section east of Petersburg, Va. and in the Kenova-Ironton territory was a bold manifestation of interest in modern passenger service by this efficient coal carrier and champion of steam power.

Selection of the Bangor & Aroostook as "Road of the Year" for 1951 may come as a surprise. The little road that exists by and for the famous Maine potato has followed up Dieselization with speedups of its two name trains *Aroostook Flyer* and *Potatoland Special* by from 25 minutes to a full hour between Bangor and Van Buren. In conjunction with the Boston & Maine's *Flying Yankee,* the former train brings Van Buren to within 10 hours and 55 minutes of Boston by rail (474 miles). For a run so far off the beaten path, this is remarkable enterprise.

While the Boston & Maine shows a slight loss in speed mileage, a most unusual development is noted—a mile a minute spurt by the *State of Maine Express* from Exeter to Dover in 17 minutes. Although a popular favorite with New Englander and New Yorker alike, few ever think of the *State of Maine* as anything but a leisurely overnighter on the New York-Portland run.

The New Haven continues its new progressive policy with a morning 4-hour New York-Boston flyer, the *Mayflower,* which should become very popular with businessmen, who can now leave in the morning, have five or more hours for business in Boston or New York and return home on the *Merchants Limited* in time for a good night's sleep.

The September timetable of the New York Central effected another of this road's periodic curtailments of through service. For a time the *New England Wolverine* became strictly a Boston & Albany train, while the *Southwestern* and *Cleveland Limiteds* were merged east of Cleveland. The resulting unwieldy caravan of 18 to 20 or more cars ran late frequently, and hurt the reputation of both these popular flyers and so it is a good

thing they are again independent. The *New England Wolverine* was also quickly restored, Albany to Detroit. It is rather puzzling to account for the slowing to 16 hours of the eastbound *Century* in view of the fact that on most divisions, other topnotch trains are unchanged and thus beat the *Century's* time by several minutes.

The *Cincinnati Mercury* has been transferred from Detroit-Cincinnati to the Cincinnati-Cleveland run. While faster than its immediate predecessor, *Mercury* is a misnomer for a schedule which is practically a carbon copy of that of the *Lake Shore Limited* (Big Four section) back in 1916!

ALTHOUGH the Central appears to follow a muddling-through policy with regard to through passenger travel, its attitude towards secondary and branch-line runs is changing for the better, as manifested in the expansion of the *Beeliner* fleet of RDC units. One of the Boston-Springfield runs has been extended through to Albany and the eastbound

WHAT SP lacks in speed it makes up in passenger comfort for Pacific Coast trade. Streamlined *Cascade* shown coming off Martinez-Benicia Bridge truckles to travellers with circulating ice-water, non-glare fluorescent lighting, individually controlled heating and air-conditioning, 130-foot triple unit diner-lounge

Southern Pacific

Pennsylvania Railroad

PENNSY is another road which bears down hard on luxury appeal, to the extent of public telephone service to and from *Broadway Limited* in New York-Harrisburg area. Standard Railroad of the World has adopted conservative attitude toward speed as toward other aspects of business, now seems satisfied to stay out of highest ranges

schedule is 4 hours and 20 minutes, the best time ever made between these state capitals.

A new unit now roundtrips it 160 miles each way between Syracuse and Massena, N. Y., in 3 hours and 55 minutes, a 35-minute improvement southbound, and 1 hour, 30 mins. quicker northbound over the former steam-powered schedules. Two more are making several round trips a day on the short Harmon-Peeksill run, resulting in improvement in off-hour service at the outer edge of the New York commuting zone. Beeliners are reviving the once fine Buffalo-Niagara Falls service which was slowly vanishing from the timetable.

A Beeliner of the RD-3 type, carrying mail and baggage as well as passengers, has been placed on the Detroit-Bay City run and in addition restores a long absent railroad service to Midland, Mich., site of a large plant of the Dow Chemical Company. An interesting fact is that the Chesapeake & Ohio, which once so freely advised the Central on passenger service, is now out of the Detroit-Bay City competition.

It may be said that a large part of the New York Central's loss of speed mileage is due to showing the *Century* as but one train in each direction this year, instead of two, since the operation of two sections is no longer on a regular daily basis. This accounts for about three-fourths of the 2293 mile decrease. The Pennsylvania just did hold its own in 1951, the modest increase on the electrified divisions being offset by curtailments on other parts of the system. The *General* and *Trail Blazer* are now one between New York and Chicago, with slightly lengthened time in both directions, while the *Fort Pitt* has had to take over the work of the defunct *Number 43* from Pittsburgh to Chicago. On the credit side was the speedup of the *Duquesne* to 8¼ hours, New York to Pittsburgh, which in

connection with the *Afternoon Steeler,* gave a schedule of 11¼ hours to Cleveland, fastest time ever made from New York via the Pennsylvania. Unfortunately the *Duquesne* schedule had to be slightly eased out to accommodate the heavy mail and headend work.

Lovers of steam power, and particularly admirers of the Pennsy E6s and K4s, will mourn as they note that the road once boasting 4 runs totalling 492 miles at better than 75 mph., a record never since equalled with steam power, now has but 14 schedules aggregating only 323 miles at over 60 mph., and none at all in the highest speed ranges. All but three of these runs are concentrated on the Louisville-Indianapolis district of the Southwestern Division.

Like its larger neighbor, the Baltimore & Ohio shows a slight falling off, caused for the most part by having to stop many of the Jersey City-Washington trains at Aiken, site of important naval establishments, with consequent addition of 5 or 10 minutes to overall times. A bright spot in the picture is the appearance of the first 70 mph. run on B&O timecards, that of the *Capitol Limited* from Gary to LaPaz in 47 minutes—70.3 mph.

THERE IS MORE grief for steam fans: They will see but a solitary, 11-mile spurt in the steam powered listings for the Milwaukee. Can this be the road of the A-1 *Atlantic,* for which was claimed the only regular 80-mph. timing in the world (Sparta-Portage, 78.3 miles in 58 minutes) with steam power less than a decade ago? The Hiawatha line seems to have adopted a program of economy and has sharply curtailed passenger service on all parts of its system. Even the crack Chicago-Milwaukee service suffers. The result is that Diesel locomotives have been released to take over runs formerly hauled by steam.

Although entrance of the Soo Line into

A STREAMLINED *INTERNATIONAL* as she went into service in June 1950 between Seattle, Wash. and Vancouver, B. C. GN's new *Western Star* has been given a 40-minute boost eastbound and over three hours have been clipped from *Fast Mail's* timecard

Great Northern Railroad

Great Northern

PROGRESS IS STEADY if unspectacular on the GN, which pads timetable with two trains in one. Road owns two consists like the above, each of which makes a trip daily in one direction as the *Badger* and returns as the *Gopher*. Sandstone-Superior schedule made survey in 1951 with 60 mph. speed

our survey must be postponed for at least another year, neverthless this road has made progress by following up Dieselization and re-equipment of passenger trains with a cut in running times which brings Winnipeg some 40 minutes closer to the Twin Cities and Duluth a bit nearer to Chicago. The train in the latter service has been christened *The Laker*. The accelerations are not spectacular, but it could well be that when the new power is thoroughly broken in and the effects on Diesel locomotives of the severe Wisconsin winter weather are known, we may see further progress on the Soo.

For a second time the Kansas City-Dallas run of the *Texas Rocket* has been cut back to Kansas City-Oklahoma City service and approximately an hour is added to the overnight times between Kansas City and the Twin Cities, which clouds the Rock Island picture considerably, despite two runs at better than 75 mph. where but one existed before.

SOLUTION of perennial problem of dining car costs is sought by C&O with introduction of *Frigidinner*. Thawed out for customers' delectation, complete meal is said to hurt passenger's pocketbook 40 per cent less than standard diner prices

Chesapeake & Ohio

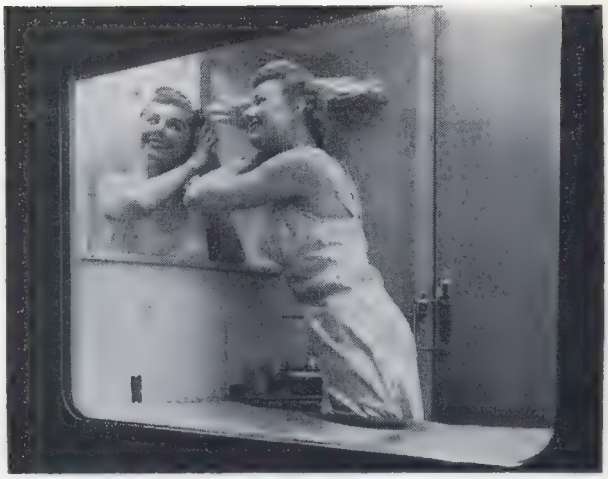
The Great Northern is still plugging away with modest speedups here and there. The *Western Star* has been quickened 40 minutes eastbound, and over three hours have been clipped from the time of No. 28, the *Fast Mail*.

Chicago & Eastern Illinois has had a stormy career during the past decade. However, this small road more than doubled its speed mileage in 1951. Just as the *Georgian* needed a Chicago source of revenue, so its sister train, the *Humming Bird*, expands its service to the southland with a Windy City section

Chesapeake & Ohio

operating north of Evansville over the C&EI. This is added to by quickenings of the *Dixie Limited*, and the northbound day local, Evansville to Chicago, also of the *Dixie Flagler* which had fallen into a lackadaisical gait the past two years.

The Santa Fe took our hint of last year and cut an hour off the time of the eastbound *Chief*, while amongst the improvements on the Overland Route was the extension of the



Above: **An upper was never like this. In a C&O roomette you can stand without raising the bed. By day, three can sit comfortably.** ***Below:*** **Chicago Union Station, one of the country's major passenger rail hubs**

Milwaukee Road Magazine

Baltimore & Ohio

SPEED WITH SAFETY, more efficient train movement with greater economy. Centralized traffic control from the dispatcher's office results in greater utilization of existing track facilities with an improvement in on-time train performance, reduction in operating expenses sufficient to pay for CTC installation in about 5 years

City of St. Louis through to Los Angeles.

Along with the *Flagler*, the *South Wind* of the Pennsylvania's Louisville and Nashville route from the Midwest to Florida has also been speeded up and both now run on schedules matching that of the *City of Miami*. However, all three of these flyers have much ground to recover before they are back to their fine prewar performances.

The flurry of ambition shown by the Canadian roads seems to have subsided, their timetables remaining pretty much as they were a year ago.

THE FOREGOING summary of 1951 developments on individual American railroad systems doesn't read like the fine achievements in Europe, or like the glowing accounts, in our earliest surveys, of fleets of new streamliners going into service and of hours being clipped in one change of the timetable. Except the *Empire Builder* replacement, no new streamliners took the rails over the past twelve months and the time of many of the present ones was lengthened. The casual reader might almost conclude that the ultimate has been reached.

However, careful study and comparison of the current tabulation with that of a year ago indicates that definite progress was made. The sharp decline in the 75 and 70 mph. total figures is attributable to the need to comply with ICC rulings. Despite extensive curtailments of service and slowing of important trains our basic grand total of 60 mph. has virtually held its own. This is accounted for by the many minute adjustments in intermediate timings, with little or no change in the overall picture. A few additional minutes on one section is taken up on the next. A stop is added somewhere and a new mile-a-minuter is born. And so on. The Lackawanna added time to the *Westerner's* schedule from Hoboken to Buffalo, while the Erie's through schedules remain practically stationary, yet both show a substantial gain in speed mileage. The Burlington opened virgin territory on its Alliance Division with a spurt from Seneca to Halsey, 32.3 miles in 32 minutes, and broke the *Zephyr* monopoly in its Chicago suburban territory with two runs between Chicago and La Grange. Comparing Southern Pacific terminal times in

recent *Official Guides* will not reveal its 453-mile increase. Among new runs on that road are that of the *Overland Limited* from Carlin to Imlay, 150.2 miles in 145 minutes, and the *Golden State Limited* from Yuma to Phoenix, 175.2 miles in 167 minutes.

The clinching arguments would appear to be the all round showing in the 65 mph. column, which increased by 3159 miles over 1950 as against a bare 326 mile gain at the basic 60 mph. figure.

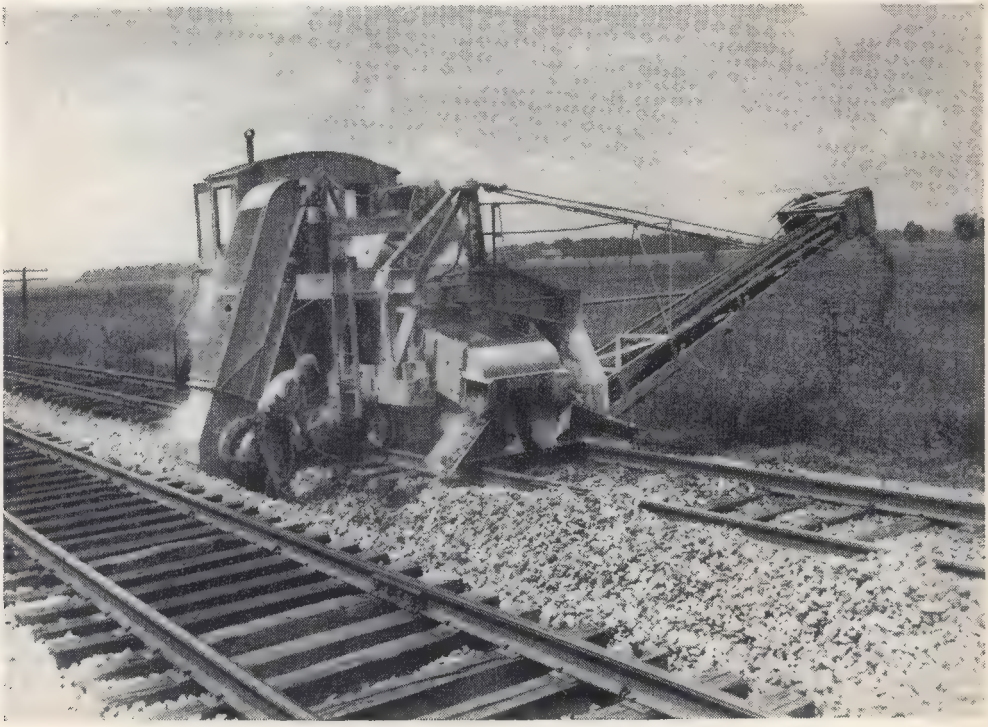
Despite losses in basic totals, the Milwaukee, Rock Island and Western Pacific all gain at the 65 level, while the Milwaukee not only improves at the 70 mph. but jumps 122 miles at the 75 level. Moreover, we now have no less than 13 runs, totalling 635 miles at 80 mph.—highest ever at this rate! Nine of these, totalling 448 miles, are on the Burlington, while Illinois Central claims the rest.

Fifteen years having elapsed since our first study of American railroad train-speeds; the maps on pages 16 and 17 show how the tidal wave of the great speedup has spread over the nation. In 1936 mile-a-minute performance was still largely concentrated in the eastern trunk line territory. The earliest streamliners blazed the speed trail through the west. Except for one tiny stretch on the Florida East Coast, the entire southland as far as Texas was as the desert. Big systems such as the Erie, the Rock Island, the Great Northern, and the Katy came nowhere near a 60 mph. run in their timecards.

We close in the belief that America's railroads are still keenly aware of the desirability, not to say the necessity of highspeed schedules and that as soon as the crises with which they are confronted subside appreciably, the roads will again show what they can really do.

FOULED BALLAST can mean a dangerously insecure roadbed, increased maintenance costs, slowed trains, higher operating expenses. The mechanical ballast cleaner is coming more and more into the picture. This one purchased by the Erie can clean 750 feet of tract per hour. An average of 2000 feet per day is claimed for the Matisa ballast cleaner, introduced from Switzerland

Erie Railroad



Frank Clodfelter

SLICK VARNISH for the sunny South, Atlantic Coast Line's *Champion* crosses St. John's River on Florida East Coast trackage

Fastest Regularly Scheduled Start-to-Stop Runs on United States and Canadian Railroads

(Timed at 60 miles per hour or better, except as may be noted in 1st lefthand column)

Diesel Operation

Railroad	Train	From	To	Miles	Time (min.)	Speed (mph.)
Atchison, Topeka & Santa Fe (70 mph and over)	22 El Capitan	Dodge City	Hutchinson	120.2	95	75.9
	12 Chicagoan	Fort Madison	Galesburg	55.4	45	73.8
	18–22 Super Chief-El Capitan	La Junta	Dodge City	202.4	165	73 5
	17 Super Chief	Dodge City	La Junta	202.4	166	73.1
	7 Fast Mail	Gallup	Holbrook	94.9	78	73.0
	17–21 Super Chief-El Capitan	Gallup	Winslow	127.2	105	72.7
	18–22 Super Chief-El Capitan	Winslow	Gallup	127.2	105	72.7
	11–15 Kansas Cityan-Texas Chief	Joliet	Streator	52.1	43	72.7
	20 Chief	Dodge City	Hutchinson	120.2	100	72.1
	12–16 Chicagoan-Texas Chief	Newton	Emporia	73.0	61	71.8
	21 El Capitan	Hutchinson	Dodge City	120.2	101	71.4
	21 El Capitan	Dodge City	La Junta	202.4	170	71.4
	62 Golden Gate	Stockton	Merced	65.4	55	71.3
	12 Chicagoan	Galesburg	Chillicothe	47.4	40	71.1
	61–63 Golden Gates	Bakersfield	Hanford	80.2	68	70.8
	11 Kansas Cityan	Galesburg	Fort Madison	55.4	47	70.7
	63 Golden Gate	Merced (c)	Stockton (c)	65.4	56	70.1
Atlantic Coast Line (65 mph and over)	7–91 Miamian-West Coast Champion	Petersburg	Rocky Mount	96.9	84	69.2
	92 West Coast Champion	Jacksonville	Nahunta	66.8	58	69.1
	376 Everglades	Yemassee	Charleston	53.2	47	68.2
	74 Vacationer(WS)	Folkston	Savannah (North Tower)	107.8	96	67.4
	78 Palmette	Rocky Mount	Weldon Yard	35.9	32	67.3
	88 Florida Special (WS)	Nahunta	Savannah (North Tower)	81.8	73	67.2
	1–91 East Coast Champion-West Coast Champion	Florence	Charleston	95.0	85	67.1
	88 Florida Special (WS)	Savannah (North Tower)	Charleston	105.4	95	66.6
	8 Miamian	Florence	Fayetteville	83.0	75	66.4
	8 Miamian	Jacksonville	Savannah (North Tower)	148.6	135	66.1
	1 East Coast Champion	Richmond	Rocky Mount	123.9	113	65.8
	73 Vacationer (WS)	Savannah (North Tower)	Nahunta	81.8	75	65.4
	91 West Coast Champion	Wilson	Florence	156.9	144	65.4
	76 Havanna Special	Nahunta	Jessup	28.4	26	65.5
	2 East Coast Champion	Jacksonville	Savannah	151.9	140	65.1
	7–8 Miamian	Florence†	Savannah (North Tower)†	200.4	185	65.0
	87 Florida Special (WS)	Florence	Savannah (North Tower)	200.4	185	65.0
Baltimore & Ohio (65 mph and over)	6 Capitol Limited	Gary	Lapas	55.1	47	70.3
	8 Shenandoah	Gary	Garrett	116.8	101	69.4
	10 Chicago-Washington Express	Gary (c)	Lapas (c)	55.1	48	68.8
	7 Shenandoah	Garrett	Lapas	61.7	54	68.5
	28 Royal Blue	Baltimore (Mt. Royal)	Wilmington	69.4	61	68.3
	7 Shenandoah	Lapas	Gary	55.1	49	67.4
	26 Columbian	Lapas	Garrett	61.7	55	67.3
	4–27 Diplomat-Royal Blue	Baltimore (Mt. Royal)†	Wilmington†	69.4	62	67.2
	152 Number 152	Riverdale	Laurel	11.2	10	67.2
	6 Capitol Limited	Garrett	Fostoria	91.2	82	66.7
	504 Marylander	Newark	Wilmington	12.2	11	66.6

(c) Includes intermediate stop or stops *(†) Runs listed in both directions* *(WS) Winter season run*

Railroad	Train	From	To	Miles	Time (min.)	Speed (mph.)
	25 Columbian	Lapaz	Gary	55.1	50	66.1
	26 Columbian	Garrett	Defiance	40.7	37	66.0
	26 Columbian	Defiance	Fostoria	50.5	46	65.8
	5 Capitol Limited	Garrett	Napanee	45.8	42	65.4
	10 Chicago-Washington Express	Willard	Rittman	52.1	48	65.1
	523 Marylander	Wilmington	Baltimore (Mt. Royal)	69.4	64	65.1
Boston & Albany	600 Beeliner	North Grafton	Framingham	16.5	16	62.8
Boston & Maine	101 Number 101	Exeter	Dover	16.7	15	66.8
	11–16 Kennebec-Flying Yankee	Dover†	Biddeford†	32.0	30	64.0
	15 Flying Yankee	Boston	Biddeford	99.1	94	63.2
	12–81 Kennebec-State of Maine Express	Dover†	Exeter†	16.7	16	62.6
	12 Kennebec	Biddeford	Dover	32.0	31	61.9
Chesapeake & Ohio	3 Pere Marquette	Lansing	Lake Odessa	32.7	31	63.3
	2 Pere Marquette	Lansing	Howell	33.2	32	62.2
	2 Pere Marquette	Grand Rapids	Lansing	64.6	63	61.5
	6 Pere Marquette	Lansing	Plymouth	62.9	62	60.9
	8 Pere Marquette	Michigan City	St. Joseph	37.3	37	60.5
	2 Pere Marquette	New Buffalo	St. Joseph	27.2	27	60.5
Chicago & Eastern Illinois	7 Georgian	Chicago Heights	Danville	96.6	82	70.6
	17 Humming Bird	Chicago Heights	Danville	96.6	83	69.8
	11 Meadowlark	Momence	Watseka	27.6	26	63.8
	9 Dixie Flagler (e)	Terre Haute	Vincennes	57.2	54	63.6
	3 Number 3	Chicago Heights	Hoopston	72.6	69	63.1
	3–4 Numbers 3 and 4	Terre Haute†	Sullivan†	26.2	25	62.9
	7–10 Georgian-Dixie Flagler (e)	Terre Haute†	Vincennes†	57.2	55	62.4
	11–12 Meadowlark	Watseka†	Clover†	48.4	47	61.8
	4 Number 4	Watseka	St. Anne	17.4	17	61.4
	2 Number 2	Watseka	Momence	27.6	27	61.3
	8–18 Georgian-Humming Bird	Vincennes	Terre Haute	57.2	56	61.3
	12 Meadowlark	Momence	Chicago Heights	23.3	23	60.8
	2 Number 2	Sullivan	Terre Haute	26.2	26	60.5
	17 Humming Bird	Terre Haute	Vincennes	57.2	57	60.2
	8 Georgian	Danville	Chicago Heights	96.6	96	60.4
	18 Humming Bird	Danville (c)	Chicago Heights (c)	96.6	96	60.4
Chicago & North Western (70 mph and over)	152–156 Commuter-Streamliner 400s	Kenosha	Waukegan	15.66	12	78.3
	401 Twin Cities 400	Evanston	Racine	49.9	39	76.8
	400 Twin Cities 400	Milwaukee	Evanston	72.4	58	74.9
	151–214–215 City of Milwaukee-Penninsula 400s	Evanston†	Kenosha†	39.6	32	74.3
	401 Twin Cities 400	Adams	Merrillan	69.7	57	73.4
	105 City of Portland	Boone	Carroll	52.3	43	73.0
	106–111–112 Cities of Portland-Denver	Ames†	Marshalltown†	37.5	31	72.5
	155 Streamliner 400	Waukegan	Kenosha	15.66	13	72.4
	400–401 Twin Cities 400	South Beaver Dam†	Adams†	61.4	51	72.2
	209 Penninsula 400	Evanston	Kenosha	39.6	33	72.0
	111 City of Denver	Clinton	Cedar Rapids	81.3	68	71.8
	158 City of Milwaukee 400	Waukegan	Evanston	23.9	20	71.7
	111 City of Denver	Sterling	Clinton	28.6	24	71.5
	102–104–112 Cities of San Francisco-Los Angeles-Denver	Council Bluffs	Boone	145.1	122	71.4
	101–103 Cities of San Francisco-Los Angeles	Clinton	Cedar Rapids	81.3	69	70.7
	401 Twin Cities 400	Milwaukee	South Beaver Dam	62.5	53	70.7
	106 City of Portland	Council Bluffs	Carroll	92.8	79	70.4

(c) Includes intermediate stop or stops *(†) Runs listed in both directions* *(e) Runs every third day*

Railroad	Train	From	To	Miles	Time (min.)	Speed (mph.)
Chicago, Burlington & Quincy (70 mph and over)	21–23 Twin Cities Zephyrs	East Dubuque	Prairie du Chein	54.6	38	86.2
	22–24 Twin Cities Zephyrs	La Crosse	Prairie du Chein	57.7	41	84.4
	49 Empire Builder	East Dubuque	Prairie du Chein	54.6	40	81.9
	21–23 Twin Cities Zephyrs	North La Crosse	Winona Junction	26.9	20	80.7
	21–23 Twin Cities Zephyrs	Prairie du Chein	La Crosse	57.7	43	80.5
	10 Denver Zephyr	Galesburg	Aurora	124.5	97	77.0
	49 Empire Builder	Prairie du Chein	La Crosse	57.7	45	76.9
	1 Denver Zephyr	Chicago	Galesburg	162.2	127	76.7
	22–24 Twin Cities Zephyrs	Prairie du Chein	East Dubuque	54.6	43	76.3
	21–23 Twin Cities Zephyrs	Savanna	East Dubuque	39.4	31	76.2
	44 Empire Builder	La Crosse	East Dubuque	112.3	89	75.7
	17 California Zephyr	Aurora	Galesburg	124.5	99	75.4
	10–18 Denver-California Zephyrs	Akron	McCook	143.0	116	73.9
	22 Morning Zephyr	St. Paul	Winona Junction	101.1	82	73.9
	21–23 Twin Cities Zephyrs	Aurora	Oregon	60.4	49	73.9
	49 Empire Builder	Savanna	East Dubuque	39.4	32	73.9
	22 Morning Zephyr	Winona Junction	North La Crosse	26.9	22	73.3
	24 Afternoon Zephyr	St. Paul	Winona Junction	101.1	83	73.1
	2 "Baby" Zephyr	Kewanee	Princeton	26.8	22	73.0
	2 "Baby" Zephyr	Galesburg	Galva	23.0	19	72.6
	18 California Zephyr	Denver (38th Street)	Akron	109.3	91	72.1
	11 Nebraska Zephyr	Aurora	Kewanee	93.2	78	71.7
	2 "Baby" Zephyr	Princeton	Mendota	21.5	18	71.6
	19 Coloradoan	McCook	Akron	143.0	120	71.5
	6 Coloradoan	Akron	McCook	143.0	121	70.9
	1 Denver Zephyr	Creston	Council Bluffs	99.2	84	70.8
	18 California Zephyr	McCook	Hastings	131.6	112	70.5
	18 California Zephyr	Galesburg	Aurora	124.5	106	70.4
	44 Empire Builder	Winona Junction	North La Crosse	26.9	23	70.3
	10 Denver Zephyr	McCook	Oxford	53.8	46	70.2
	24 Afternoon Zephyr	Winona Junction	North La Crosse	26.9	23	70.2
	22–24 Twin Cities Zephyrs	Savanna	Oregon	46.7	40	70.1
Chicago, Indianapolis & Louisville	12–14 Tippecanoe-Hoosier	Monon	Rennselaer	15.4	14	66.0
	12 Tippecanoe	Sheridan	Frankfort	19.4	18	64.6
	11–15 Tippecanoe-Hoosier	Rennselaer	Monon	15.4	15	61.6
	11 Tippecanoe	Frankfort	Sheridan	19.4	19	61.2
	11 Tippecanoe	Shelby	Rennselaer	20.4	20	61.2
	14–15 Hoosier	Indianapolis (Boul'ard)†	Frankfort†	42.5	45	60.7
	5–15 Thoroughbred-Hoosier	Lowell	Rennselaer	28.2	28	60.4
Chicago, Milwaukee, St. Paul & Pacific (70 mph and over)	6 Morning Hiawatha	Sparta	Portage	78.3	59	79.6
	100 Afternoon Hiawatha	New Lisbon	Portage	43.1	33	78.4
	101 Afternoon Hiawatha	Deerfield	Milwaukee	61.1	47	78.0
	100 Afternoon Hiawatha	La Crosse	New Lisbon	59.8	47	76.3
	15 Olympian Hiawatha	Portage	La Crosse	102.9	81	76.2
	100 Afternoon Hiawatha	Portage	Watertown	46.9	37	76.1
	102 Midwest Hiawatha	Manilla	Perry	61.3	49	75.1
	102 Midwest Hiawatha	Davis Junction	Elgin	43.3	35	74.3
	16 Olympian Hiawatha	La Crosse	Portage	102.9	83	74.3
	101 Afternoon Hiawatha	Portage	New Lisbon	43.1	35	73.8
	103 Midwest Hiawatha	Perry	Manilla	61.3	50	73.6
	101 Afternoon Hiawatha	New Lisbon	La Crosse	59.8	49	73.2
	103 Midwest Hiawatha	Tama	Madrid	65.9	54	73.2
	15 Olympian Hiawatha	Chicago	Milwaukee	85.0	70	72.8
	101 Afternoon Hiawatha	Milwaukee	Portage	92.9	77	72.4
	103 Midwest Hiawatha	Elgin	David Junction	43.4	36	72.3

(†) Runs listed in both directions

CRI&P Railroad

EXTRA FARE speedster is *Golden State Limited*. No longer a night-owl, she now leaves Chicago in early afternoon

Railroad	Train	From	To	Miles	Time (min.)	Speed (mph.)
Chicago, Milwaukee, St. Paul & Pacific (70 mph and over)	102 Midwest Hiawatha	Madrid	Tama	65.9	55	71.9
	102 Midwest Hiawatha	Marion	Delmar	53.9	45	71.8
	107 Arrow	Marion	Oxford Junction	19.0	16	71.2
	5 Morning Hiawatha	Winona	Wabasha	33.0	28	70.7
	27 Milwaukee Express	Deerfield	Milwaukee	61.1	52	70.5
	6 Morning Hiawatha	Portage	Columbus	28.2	24	70.5
	6 Morning Hiawatha	La Crosse	Sparta	24.6	21	70.3
Chicago, Rock Island & Pacific (70 mph and over)	501–503 Peoria Rockets	Joliet	Morris	21.5	17	75.9
	505 Des Moines Rocket	Joliet	Ottawa	44.3	36	73.8
	8 Rocky Mountain Rocket	Goodland	Colby	36.0	30	72.0
	7–8 Rocky Mountain Rocket	Iowa City†	Grinnell†	65.9	55	71.9
	8 Rocky Mountain Rocket	Phillipsburg	Smith Center	29.8	25	71.5
	8 Rocky Mountain Rocket	Colby	Norton	69.8	59	71.0
	10 Corn Belt Rocket	Grinnell	Iowa City	65.9	56	70.6
	10–506 Corn Belt Rocket-Des Moines Rocket	Grinnell (c)	Iowa City (c)	65.9	56	70.6
	506 Des Moines Rocket	Moline	Bureau	64.7	55	70.6
	8 Rocky Mountain Rocket	Limon	Burlington	77.1	66	70.1
Delaware, Lackawanna & Western	10 New York Mail	Lancaster	East Bethany	29.2	26	67.3
	6 Phoebe Snow	Buffalo	Mount Morris	62.4	57	65.6
	7 Westerner	Corning	Mount Morris	66.0	61	64.9
	7–8 Western-New Yorker	Elmira†	Corning†	18.0	17	63.5
	3 trains	Bath	Corning	18.9	18	63.0
	7 trains	Waverly†	Elmira†	17.6	17	62.0
	3 Phoebe Snow	Owego	Waverly	18.6	18	62.0
	3–6–5 Phoebe Snow-Twilight	Bath†	Dansville†	32.9	32	61.8
	8 New Yorker	Buffalo	Mount Morris	62.4	61	61.4
	2 Pocono Express	Buffalo	Mount Morris	62.4	62	60.4
	4 trains	Elmira†	Corning†	18.0	18	60.0
Erie (65 mph and over)]	5 Lake Cities	Kenton	Lima	27.0	22	73.6
	5 Lake Cities	Lima	Huntington	74.6	63	71.1
	6 Lake Cities	Lima	Kenton	27.0	23	70.4
	6 Lake Cities	Huntington	Lima	74.6	65	68.8
	5 Lake Cities	Rochester	Hammond	80.3	71	67.8
	5 Lake Cities	Marion	Lima	52.0	46	67.8
	5–6 Lake Cities	Huntington†	Rochester†	41.7	37	67.7
	6 Lake Cities	Hammond	Rochester	80.3	72	66.9
	8 Atlantic Express	Huntington	Lima	74.6	68	65.8
Florida East Coast (65 mph and over)	1–7 East Coast Champion-Miamian	Titusville	Cocoa-Rockledge	19.1	16	71.4
	5 South Wind (h)	Cocoa-Rockledge	Melbourne	20.7	18	69.0
	9–87 Royal Palm-Florida Special (both WS)	St. Augustine	Ormond	48.1	42	68.7
	3 Chicago Streamliner§	St. Augustine	Ormond	48.1	42	68.7
	5 South Wind (h)	St. Augustine	Ormond	48.1	42	68.7
	6 South Wind (h)	Bunnell	St. Augustine	30.5	27	67.7
	9–73–87 Royal Palm-Vacationer-Florida Special (All WS)	Titusville	Cocoa-Rockledge	19.1	17	67.4
	5 South Wind (h)	Titusville	Cocoa-Rockledge	19.1	17	67.4
	8 Miamian	Cocoa-Rockledge	Titusville	19.1	17	67.4
	88 Florida Special (WS)	Vero Beach	Melbourne	33.6	30	67.2
	88 Florida Special (WS)	Ormond	St. Augustine	48.1	43	67.1
	6 South Wind (h)	Ormond	Bunnell	17.6	16	66.0
	1 East Coast Champion	St. Augustine	Daytona Beach	53.6	49	65.6
	3 Chicago Streamliner§	Cocoa-Rockledge	Melbourne	20.7	19	65.4
	74 Vacationer (WS)	Cocoa-Rockledge	Eau Gallie	16.3	15	65.2

(†) Runs listed in both directions (c) Includes intermediate stop or stops (h) Runs two of every three days (WS) Winter season run
(§) City of Miami *operates two successive days, then* Dixie Flagler *operates third day in three-day cycles on same schedule*

Railroad	Train	From	To	Miles	Time (min.)	Speed (mph.)
	2–4–8 East Coast Champion-Chicago Streamliners-Miamian	Vero Beach	Melbourne	33.6	31	65.1
	6 South Wind (h)	Vero Beach	Melbourne	33.6	31	65.1
	74 Vacationer (WS)	Vero Beach	Melbourne	33.6	31	65.1
Fort Worth & Denver	508 Twin Star Rocket (CRI&P)	Teague	Corsicana	35.6	29	73.6
	3 Sam Houston Zephyr (CB & Q)	Corsicana	Teague	35.6	30	71.2
	4 Sam Houston Zephyr (CB & Q)	Houston	Teague	152.0	132	69.1
	508 Twin Star Rocket (RI)	Houston	Teague	152.0	136	67.0
	4 Sam Houston Zephyr (CB & Q)	Teague	Corsicana	35.6	32	66.8
	4–508 Twin Star Rocket (R)-Sam Houston-Zephyr (CB & Q)	Corsicana	Waxahachie	31.0	28	66.4
	3 Sam Houston Zephyr (CB & Q)	Teague	Houston	152.0	140	65.1
	507 Twin Star Rocket (CRI&P)	Corsicana	Teague	35.6	33	64.7
	3–507 Sam Houston Zephyr (CB & Q) Twin Star Rocket (CRI&P)	Waxahachie	Corsicana	31.0	29	64.2
	507 Twin Star Rocket (CRI&P)	Teague	Houston	152.0	144	63.3
	1–2 Texas Zephyr	Henrietta†	Bowie†	27.3	27	60.7
Great Northern	1 Empire Builder	Fargo	New Rockford	124.3	113	66.0
	2 Empire Builder	Minot	New Rockford	108.8	99	65.9
	2 Empire Builder	New Rockford	Fargo	124.3	116	64.3
	1 Empire Builder	New Rockford	Minot	108.8	102	64.0
	23 Badger Express	Cedar (c)	Coon Creek Junction	11.6	11	63.4
	1 Empire Builder	Willmar	Breckenridge	112.7	109	62.0
	19–20 Gopher	Sandstone†	Cambridge†	44.3	43	61.8
	459 Number 459	Vancouver	Kelso	39.0	38	61.5
	1 Empire Builder	Minneapolis	Willmar	91.6	91	60.4
	20 Gopher	Sandstone	Superior	59.0	59	60.0
Gulf, Mobile & Ohio	2 Abraham Lincoln	Springfield	Lincoln	28.7	26	66.2
	1 Alton Limited	Joliet	Bloomington	89.4	83	64.6
	3 Abraham Lincoln	Joliet	Bloomington	89.4	84	63.9
	18 Ann Rutledge	Springfield	Lincoln	28.7	27	63.7
	3 trains	Springfield	Alton	71.9	68	63.4
	4 Alton Limited	Springfield	Bloomington	58.5	56	62.7
	7 Midnight Special	Joliet	Dwight	36.4	35	62.4
	19 Ann Rutledge	Carlinville	Alton	33.2	32	62.3
	1 Alton Limited	Springfield	Alton	71.9	70	61.7
	3–5–19 Abraham Lincoln-Mail-Ann Rutledge	Bloomington	Lincoln	29.8	29	61.6
	18 Ann Rutledge	Bloomington	Joliet	89.4	87	61.6
	1 Alton Limited	Bloomington	Springfield	58.5	57	61.6
	2 Abraham Lincoln	Bloomington	Joliet	90.1 (d)	88	61.4
	4 Alton Limited	Carlinville	Springfield	38.7	38	61.1
	19 Ann Rutledge	Springfield	Carlinville	38.7	38	61.0
	19 Ann Rutledge	Joliet	Dwight	36.4	36	60.7
Illinois Central (70 mph and over)	1 City of New Orleans	Effingham	Centralia	53.2	39	81.8
	1–5 City of New Orleans-Panama Limited	Champaign	Mattoon	44.6	33	81.1
	53 City of Miami (h)	Champaign	Mattoon	44.6	33	81.1
	52 City of Miami (h)	Centralia	Effingham	53.0	41	77.8
	1–5–53 City of New Orleans–Panama Limited-City of Miami (h)	Mattoon	Effingham	26.8	21	76.6
	6 Panama Limited	Brookhaven	Jackson	54.1	43	75.5
	2–5 City of New Orleans-Panama Limited	Centralia†	Effingham†	53.2	43	74.3
	2 City of New Orleans	Brookhaven	Hazelhurst	20.6	17	72.7

(†) Runs listed in both directions (c) Includes intermediate stop or stops (h) Operated 2 out of every 3 days (WS) Winter season run (d) Via Coal City Line
(§) City of Miami *operates two successive days, then* Dixie Flagler *operates third day in three-day cycles on same schedule*

Railroad	Train	From	To	Miles	Time (min.)	Speed (mph.)
	21 Green Diamond	Kankakee	Gilman	25.2	21	72.0
	5 Panama Limited	Brookhaven	McComb	23.8	49	71.4
	1 City of New Orleans	Kankakee	Rantual	57.9	49	70.9
	19 Daylight	Kankakee	Gibson City	54.1	46	70.5
	19–21 Daylight-Green Diamond	Woodlawn	Kankakee	48.0	41	70.2
	1–2 City of New Orleans	Durant†	Canton†	35.1	30	70.2
Lehigh Valley	8 Maple Leaf	Depew	Geneva	93.2	79	70.7
	7 Maple Leaf	Geneva	Depew	93.2	83	67.3
	9–10–11 Black Diamond-Star	Clifton Springs†	Rochester Junction†	25.1	24	62.7
	7–10 Maple Leaf-Black Diamond	Tunkhannock†	Towanda†	47.8	46	62.4
	23–24 Number 23 and 24	Manville†	Flemington Junction†	14.6	14	62.4
	10–11 Black Diamond-Star	Caledonia†	Batavia†	17.6	17	62.1
	9 Black Diamond	Rochester Junction	Batavia	31.0	30	62.0
	3 trains	Rochester Junction†	Caledonia†	13.4	13	61.8
	11 Star	Batavia	Buffalo	37.1	36	61.8
	7 Maple Leaf	Sayre	Geneva	73.5	72	61.2
	7–8–9 Maple Leaf-Black Diamond	South Plainfield†	Flemington Junction†	24.5	24	61.2
	4–9 Number 4-Black Diamond	Tunkhannock†	Towanda†	47.8	47	61.0
	5 trains	Newark	South Plainfield	15.1	15	60.4
	4 Number 4	Rochester Junction	Clifton Springs	25.1	25	60.2
	3 trains	Batavia†	Buffalo†	37.1	37	60.2
Louisville & Nashville	98 Pan American	Bowling Green	Cave City	28.7	26	66.2
	6 Humming Bird	Bowling Green	Elizabethtown	70.7	69	61.5
Missouri, Kansas & Texas	2 Texas Special	Durant	McAlester	75.4	72	62.8
	7 Bluebonnet	Parsons (c)	Muskogee (c)	117.0	115	61.0
	7 Bluebonnet	McAlester	Atoka	43.6	43	60.8
Missouri Pacific (65 mph and over)	12 Colorado Eagle	Scott City	La Crosse	92.3	78	71.0
	12 Colorado Eagle	Sugar City	Eads	55.4	48	69.2
	14 Number 14	Warrensburg	Sedalia	29.5	26	68.1
	12 Colorado Eagle	Horace	Leoti	23.8	21	68.0
	11 Colorado Eagle	Eads	Sugar City	55.4	49	67.8
	2–22 Texas Eagles	Little Rock	Poplar Bluff	180.1	160	67.5
	11–12 Colorado Eagle	Horace†	Eads†	55.0	49	67.3
	11 Colorado Eagle	La Crosse	Scott City	92.3	83	66.7
	11 Colorado Eagle	Warrensburg	Independence	54.5	49	66.6
	11 Colorado Eagle	Council Grove	Hoisington	26.5	24	66.2
	11 Colorado Eagle	Ottawa	Council Grove	71.5	65	66.0
	11 Colorado Eagle	Dedalia	Warrensburg	29.5	27	65.6
	19 Sunflower	Kirkwood	Washington	38.2	35	65.5
	11 Colorado Eagle	Kirkwood	Jefferson City	108.6	100	65.2
	21 Texas Eagle	Poplar Bluff	Little Rock	180.1	166	65.1
New York Central (65 mph and over)	28 New England States	La Porte	South Bend	26.7	22	72.8
	12 Southwestern Limited	Mattoon	Paris	37.6	31	72.7
	25–67 Twentieth Century Limited-Commodore Vanderbilt	Toledo	Elkhart	133.0	110	72.6
	22 Lake Shore Limited	Englewood	South Bend	78.8	66	71.6
	46 Interstate Express	Gary	South Bend	59.3	50	71.2
	27 New England States	Waterloo	Elkart	54.3	46	70.8
	68 Commodore Vanderbilt	Elkhart	Toledo	133.0	112	70.6
	24 Knickerbocker	Granite City	Mattoon	114.9	98	70.3
	12 Southwestern Limited	Terre Haute	Greencastle	32.6	28	69.9
	2 Pacemaker	La Porte	South Bend	26.7	23	69.6

(†) Runs in both directions *(c) Includes intermediate conditional stop or stops*

H. L. Kelso

UNION PACIFIC'S *City of Los Angeles*, westbound from Chicago, overtakes and passes AT&SF's *Grand Canyon Limited* at Victorville, Calif.

Railroad	Train	From	To	Miles	Time (min.)	Speed (mph.)
New York Central (65 mph and over)	26–28 Twentieth Century Limited-New England States	Englewood	Elkhart	93.9	81	69.5
	1–2 Pacemaker	Toledo†	Elkhart†	133.0	115	69.4
	8 Wolverine	Hudson	Rhinecliff	25.3	22	69.0
	41 Knickerbocker	Newark	Rochester	29.9	26	69.0
	51 Empire State Express	Dunkirk	Westfield	17.2	15	68.8
	51 Empire State Express	Erie	Painesville	66.3	58	68.6
	40 Missourian	Mattoon	Paris	37.6	33	68.5
	24 Knickerbocker	Albany	Poughkeepsie	69.4	61	68.3
	26–28 Twentieth Century Limited-New England States	Elkhart	Toledo	133.0	117	68.1
	24 Knickerbocker	Mattoon	Terre Haute	56.6	50	67.9
	41 Knickerbocker	Erie	Collinwood	87.0	77	67.8
	8 Wolverine	Windsor	St. Thomas	109.6	97	67.8
	8 Wolverine	St. Thomas	Fort Erie	118.2	105	67.5
	1–15–17 Pacemaker-Ohio State Limited-Wolverine	Syracuse	Rochester	80.9	72	67.4
	41 Knickerbocker	Bellefontaine	Muncie	88.8	79	67.4
	8 Wolverine	Michigan City	Niles	37.0	33	67.3
	9 trains	Buffalo	Collinwood	174.7	156	67.2
	1–17–41 Pacemaker-Wolverine-Knickerbocker	Poughkeepsie	Albany	69.4	62	67.2
	11 Southwestern Limited	Indianapolis	Terre Haute	71.6	64	67.1
	27 New England States	Toledo	Waterloo	78.7	71	66.6
	22 Lake Shore Limited	Toledo	Elkhart	133.0	120	66.5
	51 Empire State Express	Syracuse	Rochester	80.9	73	66.4
	8 Wolverine	Syracuse	Schenectady	129.5	117	66.4
	11 Southwestern Limited	Buffalo	East Cleveland	178.2	161	66.4
	46 Interstate Express	Syracuse	Utica	51.9	46	66.3
	17 Wolverine	Utica	Rome	13.8	12½‡	66.2
	427 Gateway	Indianapolis	Terre Haute	71.6	65	66.0
	16 Ohio State Limited	Syracuse	Albany	146.4	134	65.7
	2 Pacemaker	Toledo	Linndale	100.6	92	65.5
	17–22–40 Wolverine-Lake Shore Limited-Missourian	Schenectady†	Utica†	77.6	71	65.6
	28 New England States	Gary	La Porte	32.6	30	65.2
	41 Knickerbocker	Greencastle	Terre Haute	32.6	30	65.2
	48 Detroiter	Windsor	St. Thomas	109.6	101	65.2
New York, Chicago & St. Louis	9 Number 9	Green Springs	Fostoria	20.3	19	64.1
	8 Nickel Plate Limited	Fort Wayne (c)	Continental (c)	45.8	43	63.9
	8 Nickel Plate Limited	South Gary	Valparaiso	15.9	15	63.6
	8 Nickel Plate Limited	Continental	McComb	24.9	24	62.2
	7 Westerner	Ashtabula	Painesville	25.7	25	61.7
	7 Westerner	Buffalo	Erie	87.0	85	61.4
	7 Westerner	Bellevue	Fostoria	32.5	32	60.9
	5–7–9 Nickel Plate Limited-Westerner-Number 9	Rocky River	Lorain	18.0	18	60.0
New York, New Haven & Hartford	177 Senator	Providence	Westerly	43.8	40	65.7
	9–23–27 Mayflower-Yankee Clipper-Merchants Limited	Providence	New London	62.2	57	65.5
	550 Comet	Pawtucket	Boston (Back Bay)	38.0	35	65.2
	6–22–26 Mayflower-Yankee Clipper-Merchants Limited	New London	Providence	62.2	57½	64.9
	12 Bay State	Westerly	Providence	43.8	41	64.1
	11 Bay State	Providence	New London	62.2	59	63.2

(‡) Listed at one-half minute more than timetable allowance *(c) Includes intermediate stop or stops* *(†) Runs listed in both directions*

Railroad	Train	From	To	Miles	Time (min.)	Speed (mph.)
New York, New Haven & Hartford	8 trains	Providence†	Kingston†	27.0	26	62.3
	6–22–26 Mayflower-Yankee Clipper–Merchants Limited	New Haven	New London	50.8	49½	61.5
	557 Comet	Boston (Back Bay)	Attleboro	30.6	30	61.2
	20–176 Puritan-Senator	Westerly†	Providence†	43.8	43	61.1
	7 trains	Boston (Back Bay)†	Providence†	42.5	42	60.7
	187 Quaker	Providence	New London	62.2	62	60.2
	3 trains	Kingston†	Providence†	27.0	27	60.0
Northern Pacific	1 North Coast Limited	Elk River	St. Cloud	35.3	34	62.3
	407 Number 407	Vancouver	Kelso	39.0	38	61.5
	62 Number 62	Rush City	Rock Creek	5.1	5	61.2
	2 North Coast Limited	St. Cloud	Elk River	35.3	35	60.5
Pennsylvania (65 mph and over)	1 Pennsylvania Limited	Plymouth	Gary	58.9	51	69.4
	22 Manhattan Limited	Warsaw	Fort Wayne	39.3	34	69.3
	70 Admiral	Valparaiso	Plymouth	40.2	35	68.9
	99 Number 99	Fort Wayne	Plymouth	64.1	56	68.7
	65 Jeffersonian	Effingham	East St. Louis	96.0	84	68.6
	62 Golden Triangle	Gary	Fort Wayne	123.0	108	68.3
	11–31 St. Louis Mail-Spirit of St. Louis	Terre Haute	Effingham	67.8	60	67.8
	6 trains	Plymouth†	Fort Wayne†	64.1	57	67.5
	2–28 Pennsylvania Limited-Broadway Limited	Englewood	Fort Wayne	140.9	126	67.1
	22 Manhattan Limited	Gary	Warsaw	83.7	75	67.0
	30–32–66 Spirit of St. Louis-St. Louisian-American	East St. Louis	Effingham	96.0	86	66.9
	48–58 General-Liberty Limited	Gary	Plymouth	58.9	53	66.7
	29 Broadway Limited	Upper Sandusky	Fort Wayne	102.4	92	66.7
	44 Number 44	Valparaiso	Fort Wayne	104.4	94	66.6
	29 Broadway Limited	Fort Wayne	Englewood	140.9	127	66.6
	54 Gotham Limited	Gary	Fort Wayne	123.0	111	66.5
	65 American	Aden	Effingham	42.1	38	66.4
	4 trains	Fort Wayne	Lima	59.5	54	66.1
	4 trains	Crestline	Lima	72.2	66	65.6
	64–67 Jeffersonian-American	Effingham†	Terre Haute†	67.8	62	65.6
	64 Jeffersonian	East St. Louis	Effingham	96.0	88	65.4
	23–59 Manhattan Limited-Liberty Limited	Crestline	Fort Wayne	131.7	121	65.3
	52–434 Fort Pitt–Number 434	Valparaiso	Plymouth	40.2	37	65.2
	6 Allegheny	East St. Louis	Terre Haute	163.8	151	65.1
Pennsylvania-Reading Seashore Lines	331 Wildwood Express	Haddonfield	Tuckahoe	47.7	43	66.6
	3 trains	Haddonfield	Tuckahoe	47.7	46	62.2
Reading	11 trains (B & O Route) (A)	Plainfield†	Wayne Junction†	60.0	55	65.4
	3 Diplomat (A)	Plainfield	Wayne Junction	60.0	56	64.3
Richmond, Fredericksburg & Potomac	376 Havanna Special (WAS)	Doswell	Fredericksburg	37.6	37	60.9
	16 Washington Express	Ashland	Fredericksburg	44.6	44	60.8
St. Louis-San Francisco	105 Kansas City-Florida Special	Hoxie	Jonesboro	22.0	22	60.0
Seaboard Air Line (65 mph and over)	57 Silver Meteor	West Lake Wales	Avon Park	22.4	18	74.7
	21 Silver Star	Baldwin	Waldo	34.5	31	72.6
	22–45 Silver Star-Orange Blossom Special (WS)	Avon Park†	West Lake Wales†	22.4	19	70.8
	21 Silver Star	Sebring	Okeechobee	41.4	35	70.8
	22 Silver Star	Ocala	Waldo	45.3	39	69.7
	22 Silver Star	West Palm Beach	Okeechobee	61.2	63	69.3
	58 Silver Meteor	West Palm Beach	Sebring	102.6	89	69.2
	22 Silver Star	Okeechobee	Sebring	41.4	36	69.0

(†) Runs listed in both directions (A) Officially operated by Reading although comprised of B&O motive power and rolling stock (WAS) Washington section (WS) Winter season run

Railroad	Train	From	To	Miles	Time (min.)	Speed (mph.)
	21–57–58 Silver Star-Silver Meteor	Waldo†	Ocala†	45.3	40	67.9
	46 Orange Blossom Special (WS)	West Palm Beach	Sebring	102.6	91	67.8
	22–58 Silver Star-Silver Meteor	West Lake Wales	Winter Haven	9.6	8½‡	67.7
	46 Orange Blossom Special (WS)	Avon Park	West Lake Wales	22.4	20	67.2
	57 Silver Meteor	Lake Worth (c)	Fort Lauderdale (c)	35.8	32	67.1
	10 Palmland	Everett	Townsend	12.7	11½‡	66.3
	46–57 Orange Blossom Special (WS) Silver Meteor	Sebring†	West Palm Beach†	102.6	93	66.3
	57 Silver Meteor	Wildwood	Winter Haven	65.1	59	66.2
	22 Silver Star	Baldwin	Thalmann	75.0	68	66.1
	8 Sunland	Yulee	Thalmann	47.6	44	65.77
	8 Sunland	Savannah	Fairfax	65.7	60	65.7
Southern	48 Southerner	Salisbury	High Point	34.5	33	62.7
	18 Birmingham Special	Attalia	Fort Payne	36.5	36	60.8
	48 Southerner	Meridian	Tuscaloosa	97.0	97	60.0
Southern Pacific	101 City of San Francisco	Carlin	Lovelock	190.2	160	71.3
	3 Golden State Limited	Carrizozo	Alamagordo	57.1	49	69.9
	102 City of San Francisco	Lovelock	Carlin	185.0	160	69.4
	102 City of San Francisco	Sparks (DO)	Lovelock	98.1	87	67.6
	9–11 Shasta Daylight-Cascade	Gerber	Davis	112.8	102	66.3
	10 Shasta Daylight	Davis	Gerber	112.8	103	65.7
	4 Golden State Limited	Chandler	Coolidge	32.7	30	65.4
	1 Sunset Limited	Niland	Indio	56.6	52	65.3
	13 Sunbeam	Houston	College Station	93.6	87	64.4
	3 Golden State Limited	Niland	Indio	56.6	53	64.1
	3–4 Golden State Limited	Tucson†	Coolidge†	64.9	61	63.9
	9 Shasta Daylight	Albany	Eugene	43.6	41	63.8
	13 Sunbeam	Bremond	Ennis	88.2	84	63.0
	2 Sunset Limited	Indio	Niland	56.6	54	62.9
	9 Shasta Daylight	Davis	Martinez	44.0	42	62.8
	13 Sunbeam	College Station	Bremond	47.7	46	62.6
	10–11 Shasta Daylight-Cascade	Eugene†	Albany†	43.6	42	62.3
	4 Golden State Limited	Yuma	Phoenix	174.2	167	62.2
	1 Sunset Limited	Tucson	Cooledge	64.9	63	61.8
	3 Golden State Limited	El Paso	Douglas	216.3	210	61.8
	4 Golden State Limited	Indio	Niland	56.6	55	61.7
	27 Overland Limited	Sacramento	Suison-Fairfield	40.1	39	61.7
	11 Cascade	Davis	Martinez	44.0	43	61.3
	12 Cascade	Martinez	Davis	43.9	43	61.2
	1–3 Sunset Limited-Golden State Limited	Yuma	Niland	65.2	64	61.2
	4 Golden State Limited	Palm Springs	Indio	27.3	27	60.7
	10 Shasta Daylight	Albany	Salem	27.3	27	60.7
	12 Cascade	Klanmath Falls	Chemult	73.8	73	60.6
	12 Cascade	Davis	Gerber	112.8	112	60.4
	4 Golden State Limited	Douglas	El Paso	216.3	215	60.3
	16 Hustler	Hackley	Fairbanks	23.1	23	60.2
Texas & Pacific	1 Texas Eagle	Stanton	Midland	19.6	19	61.9
	2 Texas Eagle	Big Spring	Colorado City	37.3	37	60.9
	1 Texas Eagle	Monahans	Pyote	15.2	15	60.8
	6 Westerner	Pecos (c)	Monahans (c)	37.2	37	60.3
	6 Westerner	Coahoma	Westbrook	18.1	18	60.3
	2 Texas Eagle	Loraine	Roscoe	10.0	10	60.0

(DO) Dispatcher's office (†) Runs listed in both directions (c) Includes intermediate stop or stops (‡) Listed at one-half minute more than timetable allowance

ALCO ELECTRIC, built long ago for Cleveland service, makes respectable but not highspeed showing on New York Central's Hudson Division after motor conversion giving more tractive effort and speed

Railroad	Train	From	To	Miles	Time (min.)	Speed (mph.)
Union Pacific (70 mph and over)	101–103–105 Cities of San Francisco-Los Angeles-Portland	Grand Island	North Platte	137.2	105	78.5
	112 City of Denver	North Platte	Kearney	95.0	73	78.1
	112 City of Denver	Grand Island	Columbus	62.4	49	76.4
	112 City of Denver	Julesburg	North Platte	82.2	65	75.9
	102–104–106 Cities of San Francisco-Los Angeles-Portland	Cheyenne	Sidney	102.0	81	75.5
	102–106 City of San Francisco-Portland	North Platte (c)	Grand Island (c)	137.2	111	74.2
	104 City of Los Angeles	North Platte (c)	Grand Island (c)	137.2	112	73.5
	102–104–106 Cities of San Francisco-Los Angeles-Portland	Sidney	North Platte	123.4	101	73.2
	112 City of Denver	Lasalle	Sterling	93.6	77	72.9
	101–103–105 Cities of San Francisco-Los Angeles-Portland	Omaha (c)	Grand Island (c)	144.1	119	72.6
	101–103–105 Cities of San Francisco-Los Angeles-Portland	North Platte	Sidney	123.4	102	72.6
	111 City of Denver	Omaha	Columbus	84.5	70	72.4
	111 City of Denver	Kearney	North Platte	95.0	80	71.2
	111 City of Denver	North Platte	Julesburg	82.2	70	70.4
	112 City of Denver	Kearney	Grand Island	42.2	36	70.3
Wabash (65 mph and over)	3 City of Kansas City	St. Charles	Montgomery	60.5	50	72.6
	10 City of St. Louis	Mexico	St. Charles	86.3	74	69.6
	24 Blue Bird	Granite City	Litchfield	44.0	38	69.4
	10 City of St. Louis	Moberly	Centralia	23.9	21	68.3
	3 City of Kansas City	Montgomery	Mexico	25.8	23	67.3
	24 Blue Bird	Litchfield	Taylorville	32.5	29	67.2
	17 Midnight Limited	St. Charles (c)	Mexico (c)	86.3	78	66.4
	10–21 Banner Blue-Blue Bird	Litchfield†	Taylorville†	32.5	30	65.0
Western Pacific	17 California Zephyr	Elko	Winnemucca	138.8	126	66.1
	17 California Zephyr	Winnemucco	Gerlach	94.2	86	65.6
	18 California Zephyr	Winnemucco	Elko	133.1	123	64.9
	2 Zephyrette (j)	Wendover	Knolle	39.0	37	63.2
	18 California Zephyr	Gerlach	Winnemucco	94.2	90	62.8
	1 Zephyrette (j)	Knolle	Wendover	39.0	38	61.5
	2 Zephyrette (j)	Jungo	Winnemucca	35.8	35	61.3
	2 Zephyrette (j)	Gerlach	Sulphur	36.8	36	61.3
	17 California Zephyr	Salt Lake City	Wendover	121.7	120	60.8
	18 California Zephyr	Herlong	Gerlach	66.4	66	60.4

Steam Operation

Atchison, Topeka & Santa Fe	2nd 24 Grand Canyon	Winslow (c)	Gallup (c)	127.2	115	66.4
	2nd 23 Grand Canyon	Wellington	Kiowa	68.0	62	65.8
	2nd 23 Grand Canyon	Gallup (c)	Winslow (c)	127.2	117	65.2
	27 Antelope	Florence	Peabody	11.4	10½‡	65.1
	2nd 24 Grand Canyon	Vaughn	Fort Sumner	70.7	66	64.3
	2nd 24 Grand Canyon	Shattuck	Woodward	31.6	30	63.2
	2nd 24 Grand Canyon	Mountainair	Vaughn	68.2	65	63.0
	106 Scout	Yeso	Fort Sumner	27.1	26	62.6
	106 Scout	Pampa	Miami	21.9	21	62.6
	2nd 23 Grand Canyon	Belen	Gallup	140.5	135	62.4
	27 Antelope	Emporia	Strong City	19.6	19	62.0
	13 Number 13	Rocky Ford	Pueblo	53.2	52	61.4

(j) Runs three times weekly *(c) Includes intermediate stop or stops* *(†) Runs listed in both directions* *(‡) Listed at one-half minute more than timetable allowance*

Railroad	Train	From	To	Miles	Time (min.)	Speed (mph.)
Atchison, Topeka & Santa Fe	2nd 23 Grand Canyon	Clovis	Fort Sumner	60.1	59	61.1
	27 Antelope	Strong City	Florence	25.2	25	60.5
	2nd 23 Grand Canyon	Vaughn	Mountainair	68.2	68	60.2
	105–106 Scout	Melrose†	Taiban†	22.0	22	60.2
Baltimore & Ohio	246 Number 246	Wellsboro	Walkerton	14.5	13½‡	64.4
	29 Number 29	North Vernon	Seymour	14.5	14	62.1
	245 Number 245	Fostoria	North Baltimore	14.3	14	61.2
	36 Philadelphia Express	Newark	Wilmington	12.2	12	61.0
	145–158 Numbers 145 and 158	Relay†	Laurel†	12.2	12	61.0
	168 Number 168	Hyattsville	Laurel	12.2	12	61.0
	54 Cincinnatian	Lima	Deshler	34.1	34	60.2
Canadian National (Includes Grand Trunk Western)	6–15 Intercity Limited-International Limited	Port Hope†	Belleville†	50.1	45	66.8
	117 Intercity Limited	Chatham	Stoney Point	20.2	19	63.7
	75–82 London-Toronto Expresses	Woodstock†	London†	28.6	27	63.6
	17 Intercity Limited	Strathroy (c)	Wyoming (c)	25.3	24	63.3
	105 La Salle	Chatham	Walkerville	44.0	42	62.8
	14 International Limited	Cassopolis	Vicksburg	29.3	28	62.8
	105 La Salle	Glencoe	Thamesville	18.8	18	62.7
	15 International Limited	Manitoba Yard	Kingston	46.7	45	62.3
	14–20 International Limited-Maple Leaf	Sarnia	London	58.9	57	62.0
	20 Maple Leaf	Valparaiso	South Bend	44.4	43	61.9
	14–20 International Limited-Maple Leaf	Chicago Lawn	Valparaiso	45.5	45	60.7
	14 International Limited	Valparaiso	South Bend	44.4	44	60.5
	75 London Express	Sunnyside	Dundas	38.0	38	60.0
	12 Intercity Limited	Walkerville	Chatham	44.0	44	60.0
	6–15 Intercity Limited-International Limited	Brockville†	Cornwall†	58.0	58	60.0
Canadian Pacific	630 Toronto Express	London	Woodstock	26.8	24	67.0
	629 London Express	Guelph Junction	Galt	18.0	17	63.4
	19 Canadian	London	Chatham	64.2	62	62.1
	21 Chicago Express	London	Thamesville	49.3	48	61.6
	340–347 Numbers 340 and 347	Pasqua†	Belle Plaine†	10.2	10	61.2
Chesapeake & Ohio	2 George Washington	Maysville	South Portsmouth	51.2	49	62.7
Chicago & North Western	164 Number 164	Kenosha	Waukegan	15.66	14	65.3
	119 Number 119	Racine	South Milwaukee	12.8	12	64.0
	5 Mail	Denison	Missouri Valley	43.4	42	62.0
	5 Mail	Chicago	Clinton	138.1	135	61.4
	5 Mail	Tama	Marshalltown	18.4	18	61.3
	5 Mail	Belle Plaine	Tama	16.3	16	61.1
	5 Mail	Jefferson	Carroll	26.1	26	60.2
Chicago, Milwaukee, St. Paul & Pacific	23 Madison Express	Waterloo	Sun Prairie	11.4	11	62.1
Chicago, Rock Island & Pacific	43–44 Numbers 43 and 44	Tyrone†	Hooker†	10.3	10	61.8
	44 Number 44	Chamberlin	Conlin	10.1	10	60.6
Florida East Coast	29 Daylight Express	Bayard	St. Augustine	21.5	21	61.4
	35 East Coast Express	Stuart	Hobe Sound	13.3	13	61.4
Illinois Central	3 Louisiane	Magnolia (c)	Amite (c)	29.5	28	63.2
Missouri Pacific	25 Texan	Poplar Bluff	Hoxie	60.8	60	60.8
	25 Texan	Hoxie	Newport	35.4	35	60.7

(†) Runs listed in both directions (c) Includes intermediate stop or stops (‡) Listed at one-half minute more than timetable allowance

Railroad	Train	From	To	Miles	Time (min.)	Speed (mph.)
New York Central (65 mph and over)	290 Forest City	Gary	La Porte	32.6	27	72.4
	90 Chicagoan	Englewood	South Bend	78.8	66	71.6
	6 Fifth Avenue Special	Elkhart	Toledo	133.0	112	71.2
	6 Fifth Avenue Special	Englewood (c)	South Bend	78.8	67	70.6
	407 Cleveland-St. Louis Special	Sidney	Union City	35.1	30	70.2
	14–59 Mail-Chicagoan	Elkhart†	Toledo†	133.0	115	69.4
	43 South Shore Express	Erie	Conneaut	27.5	24	68.7
	19 Lake Shore Limited	Schenectady	Utica	77.6	68	68.4
	10–72 Mohawk-Mount Royal	Hudson	Poughkeepsie	40.9	36	68.2
	73 Prairie State	Bryan	Elkhart	79.4	70	68.1
	6–14–90 Fifth Avenue Special-Mail-Chicagoan	Ashtabula	Erie	40.8	36	68.0
	35 Iroquois	Poughkeepsie	Rennselear	68.8	61	67.7
	19–35–55 Lake Shore Limited Iroquois-Advance Empire	Syracuse	Rochester	80.9	22	67.4
	19–59 Lake Shore Limited Chicagoan	Erie	Collinwood	87.0	78	66.9
	608 Accommodation	La Porte (c)	South Bend (c)	26.7	24	66.7
	35 Iroquois	South Bend	La Porte	26.7	24	66.7
	58 Cleveland Limited	Collinwood	Buffalo	174.7	157	66.7
	6 Fifth Avenue Special	Painesville	Ashtabula	25.5	23	66.5
	35–90–290 Iroquois-Chicagoan-Forest City	Toledo†	Elkhart†	133.0	120	66.5
	78 Paul Revere	Syracuse	Schenectady	129.5	117	66.4
	78 Paul Revere	Collinwood	Erie	87.0	79	66.3
	138 Upstate Special	Hudson	Rhinecliff	25.3	23	66.0
	21 North Star	Erie	Conneaut	27.5	25	66.0
	57 Cleveland Limited	Buffalo	Collinwood	174.7	159	65.9
	257 Mail	Toledo	Goshen	123.1	112	65.9
	21–34–90 North Star-Cayuga-Chicagoan 3 trains	Schenectady†	Utica†	77.6	71	65.6
		Toledo	Linndale	100.6	92	65.6
	33 New England Woverine	Syracuse	Rochester	80.9	74	65.6
	135 West Side Mail	Harmon	Rensselear	108.9	100	65.3
	35 Iroquois	Westfield	Erie	29.4	27	65.3
	44–139 New York Special-Mail & Express	Windsor†	St. Thomas†	109.6	101	65.2
	5–73 Mohawk-Prairie State	La Porte	Gary	32.6	30	65.2
	44 New York Special	Albany	Poughkeepsie	69.4	64	65.1
	44 New York Special	St. Thomas	Welland	100.9	93	65.1
Norfolk & Western	25 Powhatan Arrow	Suffolk	Petersburg	58.9	54	65.4
	4 Pocahontas	Waverly (c)	Suffolk (c)	36.4	34	64.2
	26 Powhatan Arrow	Petersburg	Suffolk	58.9	57	62.0
	3–22 Pocahontas-Norfolk Express	Suffolk†	Wakefield†	29.0	29	60.0
Pennsylvania	307–308 Union	Scottsburg†	Seymour†	20.2	18	67.3
	307–316 Union-Daylight Express	Columbus	Edinburg	10.4	10	62.4
	327 St. Louisian	Jeffersonville	Seymour	48.2	47	61.5
	926 Number 926	Effingham (c)	Casey (c)	32.5	32	60.9
	315–326 Daylight Express-Number 326	Scottsburg (c)	Seymour (c)	20.2	20	60.6
	307 Union	Speed	Scottsburg	19.1	19	60.3
	913 Number 913	Altamont (c)	Greenville (c)	38.1	38	60.2
	19 Number 19	McVeytown	Newton-Hamilton	10.0	10	60.0
	315 Daylight Express	Seymour	Columbus	18 0	18	60.0
	315–326 Daylight Express-Number 326	Jeffersonville	Scottsburg	28.0	28	60.0
Pennsylvania-Reading Seashore Lines	1031 Atlantic City Express	Hammonton	Egg Harbor	11.1	10	66.6
	1070–1077–1072 Nellie Bly-New York Express	Absecon†	Haddonfield†	45.3	42	64.7
	1026–1073 Philadelphia-Atlantic City Express	Absecon†	Haddonfield†	45.3	43	63.2
	1002 Philadelphia Express	Absecon	Hammonton	21.8	21	62.3

(†) Runs listed in both directions *(c) Includes intermediate stop or stops*

Florida East Coast Railroad

FEC's STAINLESS steel *Champion* is part of improved service to Florida since *Railroad*'s first survey of passenger train speeds, in 1936

Railroad	Train	From	To	Miles	Time (min.)	Speed (mph.)
Pennsylvania-Reading Seashore Lines	1029 Atlantic City Express	Haddonfield	Absecon	45.3	44	61.7
	108–135 Philadelphia Express-Atlantic City Express	Egg Harbor†	Hammonton†	11.1	11	60.5
Reading	600–602–619–621 Crusader-Wall Street	Jenkintown†	West Trenton†	21.7	19	68.5
	633 Philadelphia Express	West Trenton	Jenkintown	21.7	21	62.0
	621 Philadelphia Express	Elizabeth	Belle Mead	28.7	28	61.4
	6 trains	Hopewell	West Trenton	10.1	10	60.6
	614 Crusader	Jenkintown	Langhorne	13.1	13	60.5
Southern Pacific	15 Hustler	Fairbanks	Hackley	23.1	21	66.0
	44 Cherokee	Roll	Hyder	41.4	38	65.4
	5 Argonaut	Niland (c)	Mecca (c)	53.1	49	65.0
	223–247 Senator-Eldorado	Davis	Suison-Fairfield	26.7	25	64.1
	95 Starlight	Palo Alto	Burlingame	13.8	13	63.6
	14 Sunbeam	Ennis	Hearne	110.4	104	63.6
	51 San Joaquin Daylight	Merced	Turlock	24.3	23	63.4
	27 Overland Limited	Carlin (c)	Imlay (c)	150.2	145	62.1
	51 San Joaquin Daylight	Bakersfield	Tulare	62.9	61	61.9
	224–248 Senator-Eldorado	Suison-Fairfield	Davis	26.7	26	61.5
	6 Argonaut	Separ	Gage	20.5	20	61.5
	14 Sunbeam	Colledge Station	Houston	93.6	91	61.4
	44 Cherokee	Coachilla	Niland	53.1	52	61.2
	3 trains	Turlock†	Merced†	24.3	24	60.7
	51–52 San Joaquin Daylight	Madera†	Merced†	33.4	33	60.7
	51 San Joaquin Daylight	Tracy	Pittsburg	33.3	33	60.6
	39 Imperial	Carrizozo	Alamagordo	57.1	57	60.1
	15 Hustler	Hackley	Homestead	15.0	15	60.0
Union Pacific (65 mph and over)	28 Overland Limited	Sidney	North Platte	123.4	110	67.3
	27 Overland Limited	Grand Island	Kearney	42.4	38	67.3
	28 Overland Limited	Cheyenne	Sidney	102.0	92	66.5

Electric Operation

Chicago, North Shore & Milwaukee	3 trains	Racine	Kenosha	10.0	9	66.7
	435 Milwaukee Limited	Glenayre	Lake Bluff	16.5	15	66.0
	805–808 Electroliners	Edison Court†	Kenosha†	15.0	14	64.3
	424 Chicago Limited	Downeys West	Skokie	20.3	19	64.1
	10 Electroliners	Harrison†	Racine†	20.1	19	63.4
	13 trains	Edison Court	Zion	6.3	6	63.0
	804 Electroliner	North Chicago Junction	Howard Street	26.0	25	62.4
	6 trains	Skokie†	Lake Bluff†	18.5	18	61.7
	210 Winthrop Harbor Express	Lake Bluff	Northbrook	11.3	11	61.6
	706 Chicago Express	Skokie	Briergate	10.2	10	61.2
	11 trains	Downeys West†	Skokie†	20.3	20	60.9
	27 trains	Harrison†	Racine†	20.1	20	60.3
	35 trains	Racine†	Kenosha†	10.0	10	60.0
	5 Electroliners	Kenosha†	Edison Court†	15.0	15	60.0
	3 Electroliners	North Chicago Junction†	Howard Street†	26.0	26	60.0
Chicago, South Shore & South Bend	41 South Bend Limited	Michigan City Shops	New Carlisle	18.7	16	70.1
	8 trains	Michigan City Shops†	Lake Parks†	16.5	15	66.0
	36–37 Chicago Limited–South Bend Limited	Michigan City Shops	Hudson Lake	17.6	16	66.0
	42 Chicago Limited	Tremont	Miller	12.1	11	66.0

(c) Includes intermediate stop or stops *(†) Runs listed in both directions*

Canadian National

CNR's TORONTO-LONDON expresses, 75-82, stayed in the running in 1951 with 28.6-mile spurt at 63.6 mph. between Woodstock and London

Railroad	Train	From	To	Miles	Time (min.)	Speed (mph.)
Chicago, South Shore & South Bend	1–108 South Bend Limited-Number 108	Wilson†	Tremont†	6.3	6	63.0
	17 trains	New Carlisle†	Bendix†	11.5	11	62.7
	602 Number 602	Bendix	Michigan City Shops	30.2	29	62.4
	1 South Bend Limited	Michigan City Shops	New Carlisle	18.7	18	62.3
Chicago, North Shore & Milwaukee	9 trains	Michigan City Shops†	Hudson Lakes†	17.6	17	62.1
	9 trains	Michigan City Shops†	Lake Parks†	16.5	16	61.9
	31 South Bend Limited	Gary (c)	Beverly Shores (c)	19.3	19	60.9
	10 Fort Dearborn Limited	South Bend	Michigan City Shops	32.4	32	60.8
	42 Chicago Limited	Tremont	Miller	12.1	12	60.5
	32 Chicago Limited	New Carlisle	Springfield	14.0	14	60.0
New York, New Haven & Hartford	3 trains	South Norwalk†	Stamford†	8.0	8	60.0
Pennsylvania (65 mph and over)	49 General	Newark	Trenton	48.1	41	70.4
	152–153 Congressional	North Philadelphia†	Newark†	76.0	65	70.1
	219 Philadelphia Express	Newark	Princeton Junction	38.4	33	69.8
	6 trains	Baltimore†	Wilmington†	68.4	59	69.5
	120 Speaker	Havre de Grace	Wilmington	33.5	29	69.3
	135 New York-Washington Express	Wilmington	Perryville	32.3	28	69.2
	29 Broadway Limited	Newark	North Philadelphia	76.0	66	69.1
	31-41-49 Spirit of St. Louis-Cincinnati-Limited-General	Paoli	Lancaster	48.2	42	68.8
	206–208 New York Expresses	Trenton	Newark	48.1	42	68.7
	10 trains	Wilmington†	Baltimore†	68.4	60	68.4
	5 trains	North Philadelphia	Newark	76.0	67	68.1
	125 Executive	Wilmington	Aberdeen	38.3	34	67.5
	581 Northern Express	Parkesburg	Lancaster	23.6	21	67.4
	117–180 Vacationer (WS)-Orange Blossom Special (WS)	Baltimore†	Wilmington†	68.4	61	67.3
	25 trains	Baltimore†	Wilmington†	68.4	61	67.3
	6 trains	Paoli†	Lancaster†	48.2	43	67.2
	28 Broadway Limited	North Philadelphia	Newark	76.0	68	67.1
	192 Florida Special (WS)	Trenton	Newark	48.1	43	67.1
	14 trains	Newark†	Trenton†	48.1	43	67.1
	49 General	Trenton	North Philadelphia	27.9	25	66.9
	126 Legislator	Perryville	Wilmington	32.3	29	66.9
	400 Number 400	Seabrook (c)	Odenton (c)	11.1	10	66.6
	29–48 Broadway Limited	Paoli†	Harrisburg†	83.2	75	66.5
	3 trains	New Brunswick†	Trenton†	25.4	23	66.3
	30–175–177 Spirit of St. Louis-Colonial-Senator	North Philadelphia†	Newark†	76.0	69	66.2
	181–192 Orange Blossom Special (WS)-Florida Special (WS)	Wilmington†	Baltimore†	68.4	62	66.2
	3 trains	Wilmington†	Baltimore†	68.4	62	66.2
	5 trains	Harrisburg	Lancaster	35.2	32	66.0
	5 trains	Princeton Junction‡	Newark†	38.4	35	65.9
	13 New York-Pittsburg Express	Rahway	Trenton	37.4	34	65.8
	39 Clevelander	Paoli	Lancaster	48.2	44	65.7
	20 trains	Newark†	Trenton†	48.1	44	65.6
	143 Arlington	Wilmington	Newark	12.0	11	65.5
	139 Pelican	Wilmington	Baltimore	68.4	63	65.1
	2 Pennsylvania Limited	North Philadelphia	Newark	76.0	70	65.1

(†) Runs in both directions (WS) Winter season run (c) Includes intermediate stop or stops

Table of Aggregate Mileage

(Figures in parentheses indicate the number of runs making up each item of aggregate mileage. Daily runs, as shown here in, are those operated at least five times weekly the year around, except as otherwise noted)

Railroad	Motive Power	75 mph. or over	70 mph. or over	65 mph. or over	60 mph. or over
Atchison, Topeka & Santa Fe	Diesel	120(1)	2473(23)	5910(60)	15595(182)
	Steam	.....	.....	334(4)	964(17)
Atchison, Topeka & Santa Fe—Total		120(1)	2473(23)	6244(64)	16559(199)
Atlantic Coast Line	Diesel	.....	.....	1633(15)	3631(38)
	Diesel (WS)	.....	.....	577(5)	2145(17)
	Diesel (h)	.....	.....	.....	59(1)
Atlantic Coast Line—Total		.....	.....	2210(20)	5835(56)
Baltimore & Ohio	Diesel	.....	55(1)	1052(18)	3412(79)
	Steam	.....	.....	.....	125(8)
Baltimore & Ohio—Total		.....	55(1)	1052(18)	3537(87)
Boston & Albany	Diesel	.....	.....	.....	16(1)
Boston & Maine	Diesel	.....	.....	17(1)	245(7)
Canadian National (In Canada)	Steam	.....	.....	100(2)	629(15)
(Grand Trunk Western)	Steam	.....	.....	.....	209(5)
Canadian National—Total		.....	.....	100(2)	838(20)
Canadian Pacific	Steam	.....	.....	26(1)	179(6)
Chesapeake & Ohio (Pere Marquette District)	Diesel	.....	.....	.....	258(6)
(Maine Line)	Steam	.....	.....	.....	51(1)
Chesapeake & Ohio—Total		.....	.....	.....	309(7)
Chicago & Eastern Illinois	Diesel	.....	96(1)	193(2)	959(18)
	Diesel (e)	.....	.....	.....	114(2)
Chicago & Eastern Illinois—Total		.....	96(1)	193(2)	1073(20)
Chicago & North Western	Diesel	81(3)	1572(26)	3961(66)	6875(131)
	Steam	.....	.....	13(1)	212(7)
Chicago & North Western—Total		81(3)	1572(26)	3974(67)	7087(138)
Chicago, Burlington & Quincy (Parent System)	Diesel	1217(18)	3009(41)	5454(77)	8575(137)
(Sam Houston Zephyr on Ft. W&DC)	Diesel	.....	36(1)	406(5)	437(6)
Chicago, Burlington & Quincy—Total		1217(18)	3045(42)	5860(82)	9012(143)
Chicago, Indianapolis & Louisville	Diesel	.....	.....	30(2)	262(11)
Chicago, Milwaukee, St. Paul & Pacific	Diesel	453(7)	1337(23)	2406(42)	5584(96)
	Steam	.....	.....	.....	11(1)
Chicago, Milwaukee, St. Paul & Pacific—Total		453(7)	1337(23)	2406(42)	5595(97)
Chicago, North Shore & Milwaukee	Electric	.....	.....	46(4)	1831(120)
Chicago, Rock Island & Pacific	Diesel	43(2)	628(13)	2369(50)	5718(121)
(Twin Star Rocket on Ft. W&DC)	Diesel	.....	35(1)	254(4)	437(6)
	Steam	.....	.....	.....	31(3)
Chicago, Rock Island & Pacific—Total		.....	663(14)	3623(54)	6186(130)
Chicago, South Shore & South Bend	Electric	.....	18(1)	186(11)	846(55)
Delaware, Lackawanna & Western	Diesel	.....	.....	91(2)	688(25)
Erie	Diesel	.....	128(3)	574(10)	1495(37)
Florida East Coast	Diesel	.....	38(2)	280(9)	974(34)
	Diesel (WS)	.....	.....	285(9)	913(32)
	Diesel (e)	.....	.....	169(6)	304(12)
	Steam	.....	.....	.....	71(3)
Florida East Coast—Total		.....	38(2)	734(24)	2262(81)

HIGH-STEPPERS before *Railroad's* speed survey was thought of were Pennsy's E6s *Atlantics*, like 6009 shown here doing 60 with express out of Atlantic City. This class and later the K4s once totalled 492 miles at 75 mph.

Railroad	Motive Power	75 mph. or over	70 mph. or over	65 mph. or over	60 mph. or over
Fort Worth & Denver	Diesel	.....	71(2)	624(8)	929(14)
Great Northern	Diesel	.....	.....	233(2)	869(11)
Gulf, Mobile & Ohio	Diesel	.....	.....	29(1)	1093(20)
Illinois Central	Diesel	250(6)	704(17)	2251(54)	3784(96)
	Diesel (g)	124(3)	124(3)	533(10)	774(15)
	Steam	.....	.....	.....	29(1)
Illinois Central—Total		374(9)	828(20)	2784(64)	1587(112)
Lehigh Valley	Diesel	.....	93(1)	186(2)	986(31)
Louisville & Nashville	Diesel	.....	.....	28(1)	99(2)
Missouri, Kansas & Texas	Diesel	.....	.....	.....	236(3)
Missouri Pacific	Diesel	.....	92(1)	1328(17)	3218(63)
	Steam	.....	.....	.....	96(2)
Missouri Pacific—Total		.....	92(1)	1328(17)	3314(65)
New York Central	Diesel	.....	770(9)	5780(61)	15068(167)
	Steam	.....	358(5)	3927(49)	10465(165)
(Boston & Albany)	Diesel	.....	.....	.....	16(1)
New York Central—Total		.....	1128(14)	9707(110)	25549(333)

Frank Clodfelter

WITH THE BLUE Ridge Mountains as a backdrop, Southern Railway's Train 22 passes under Victoria Bridge and leaves Asheville, N. C. on the first lap of its 327-mile journey to Goldsboro. Road's *Southerner* does 62.7, Salisbury to High Point, N. C.

Railroad	Motive Power	75 mph. or over	70 mph. or over	65 mph. or over	60 mph. or over
New York, Chicago & St. Louis	Diesel	.....	.....	.....	305(10)
New York, New Haven & Hartford	Diesel	.....	.....	268(5)	1488(35)
	Electric	.....	.....	.....	24(3)
New York, New Haven & Hartford—Total		.....	.....	268(5)	1512(38)
Norfolk & Western	Steam	.....	.....	59(1)	212(5)
Northern Pacific	Diesel	.....	.....	.....	114(4)
Pennsylvania	Diesel	.....	.....	3492(43)	7225(111)
	Diesel (h)	.....	.....	.....	219(2)
	Steam	.....	.....	40(2)	323(14)
	Electric	.....	200(3)	7224(130)	17046(395)
	Electric (WS)	.....	.....	322(5)	890(18)
Pennsylvania—Total		.....	200(3)	11078(180)	25703(540)
Pennsylvania-Reading Seashore Lines	Diesel	.....	.....	47(1)	191(4)
	Steam	.....	.....	11(1)	326(10)
Pennsylvania-Reading Seashore Lines—Total		.....	.....	58(2)	517(14)
Reading	Diesel	.....	.....	660(11)	720(12)
	Steam	.....	.....	87(4)	211(13)
Reading—Total		.....	.....	747(15)	931(25)
Richmond, Fredericksburg & Potomac	Diesel	.....	.....	.....	81(2)
St. Louis San Francisco	Diesel	.....	.....	.....	22(1)
Seaboard Air Line	Diesel	.....	124(4)	934(20)	2889(61)
	Diesel (WS)	.....	22(1)	250(4)	1125(18)
Seaboard Air Line—Total		.....	146(5)	1184(24)	4014(79)
Southern	Diesel	.....	.....	.....	168(3)
Southern Pacific	Diesel	.....	190(1)	958(9)	2855(35)
	Steam	.....	.....	117(3)	998(23)
Southern Pacific—Total		.....	190(1)	1075(12)	3853(58)
Texas & Pacific	Diesel	.....	.....	.....	138(6)
Union Pacific	Diesel	957(9)	2939(26)	5224(51)	9921(125)
	Steam	.....	.....	268(3)	1932(35)
Union Pacific—Total		957(9)	2939(26)	5492(54)	11853(160)
Wabash	Diesel	.....	60(1)	424(9)	1727(39)
Western Pacific	Diesel	.....	.....	233(2)	648(6)
	Diesel (j)	.....	.....	.....	151(4)
Western Pacific—Total		.....	.....	233(2)	799(10)

Recapitulation

Daily Runs

Diesel	3121(46)	14379(195)	46669(651)	109061(1784)
Steam	.....	358(5)	4982(71)	17074(334)
Electric	.....	218(4)	7456(145)	19747(573)
Total	3121(46)	14955(204)	59107(867)	145882(2691)

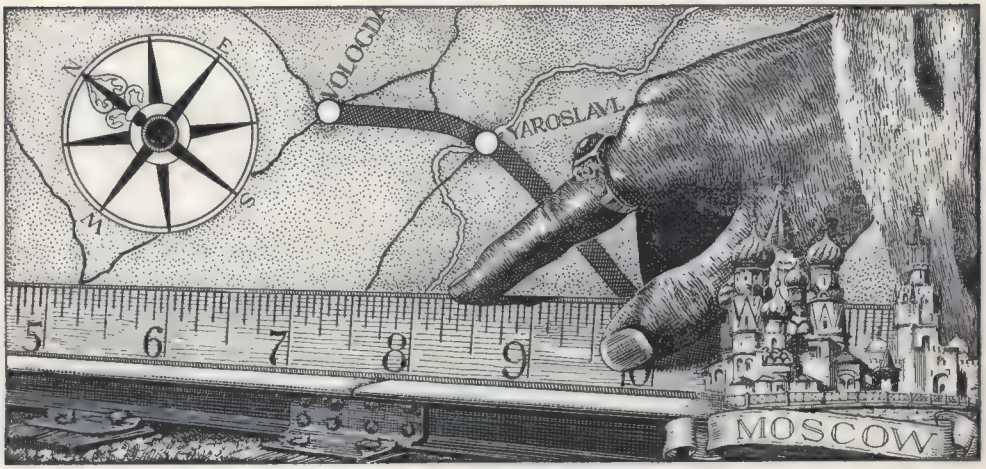
Intermittent and Winter-Season Runs

Diesel	124(3)	146(4)	1814(34)	5804(103)
Electric	.....	.....	322(5)	890(18)
Total	124(3)	146(4)	2136(39)	6694(121)
GRAND TOTAL	3245(49)	15101(208)	61243(906)	152576(2812)

EVERYBODY KNOWS Whistler's mother by sight—the dignified, serene old lady whose portrait was done so sympathetically by her son that it became the first American portrait to be hung in the Louvre in Paris, but only a few who have sought the bypaths of history know about Whistler's father. He was a remarkable person, the most human member of a somewhat talented family. His wife, for all her pictured charm, actually was bigoted, domineering and irascible. And his artistic son, James Abbott McNeill Whistler, never possessed much amiability, but his painting does live on. The obscurity of the father's achievements must be pleasing to the Russians for they would rather the world forget Major Whistler completely. The Russians, as we know, claim to have invented

THE MAN RUSSIA WOULD FORGET

C. C. HANKS



His Achievement Has Been Obscured by the Fame of His Artist Son—Few People Know That An American Engineer Built Czar Nicholas I's Most Important Railroad

almost everything. It will make them unhappy to be reminded they not only failed to invent the railroad, but they had to call in an American army man to build one of their chief roads for them. The man was Whistler's father. The major built the railroad between Moscow and Leningrad about as straight as any railroad on earth, although the straightness was not his idea. Czar Nicholas I, a stiff-necked aristocrat, laid it out for him by simply putting a ruler to the map and saying: "There's your route." Major Whistler followed it. He gave Russia a big railroad. The astounded peasants said, "He harnessed the samovar."

George Washington Whistler was named for the father of his country. His own father, John, a native of Ireland, had come to America as a British soldier un-

der Gentleman Johnny Burgoyne and was captured when Burgoyne met disaster at Saratoga. John Whistler decided to stay in America and join the American army. He became a career officer and his son George—the railroad-building major—was born in 1800 at Fort Wayne, now well within the confines of Detroit but then in the Indiana territory. George's father was commandant of the post at the time.

Culver Service, New York City

NICHOLAS I didn't give a hoot about the well-being of his humble subjects but he gave Major Whistler unconditional authority to build a straight-as-a-ruler railroad from St. Petersburg to Moscow

George can be considered a middle west pioneer, for he grew up at Fort Dearborn, the site of Chicago, and after his graduation from West Point was assigned to work on the international boundary survey from Lake Superior to Lake of the Woods. He showed much engineering and drafting ability, so the War Department detailed him to help begin the present Baltimore & Ohio Railroad and he was sent to England to study railroad practices of the 1830s. Finding little of value there to help in building a rail line in the new country, he returned to use his own ingenuity in supervising track laying over the first mile of the B&O. This was followed by the layout of the Baltimore & Susquehanna, the Erie system in part, and several New England lines.

At 33, Whistler, still a major, was weary of waiting for promotion. He quit the army to become engineer of locks and canals, and builder of locomotives at Lowell, Massachusetts. It was in Lowell that the artistic Whistler son was born, although when he was reminded of it late in life he retorted: "I shall be born when and where I want, and I do not choose to be born in Lowell."

George Whistler went from Lowell to western Massachusetts to lay rails through the twisting Berkshire valleys. He did his job in a manner to win the praise of the whole engineering world, and his achievements reached the ears of the Russian czar who was beginning to realize the military possibilities of railroads.

THE CZAR sent two colonels of engineering to America and for three years they examined American railroads and their methods. They reported that America's most expert railroad builder was Major George Washington Whistler —*Vistler* or *Uistler* to the Russians, who could never quite negotiate the *Wh*.

Major Whistler took his family to St. Petersburg (now Leningrad) in 1842. He was directed to build a 420-mile double track line from St. Petersburg to Moscow. The job was to take seven years and cost 40 million dollars—an astronomical sum at that time. On Major Whistler's urgent advice a five-foot gage, or so-called narrow gage, was adopted instead of a still wider one that America tried and later abandoned.

The major, a hard-driving toiler, was constantly on the job, traveling frequently between the two Russian cities. His problems and troubles were many. The Russian serfs, beaten and degraded to the level of beasts of burden, were not ideal workmen. And he was appalled by the graft dispensed. Whistler saw thousands of

Sovfoto, New York City

GEORGIA IN RUSSIA, Stalin's native state, with a railway passing high in the mountains, and a reminder from the Soviet photographic agency that picture captions must not be distorted

NOT LONG AGO a 52-Kilometer branch line was completed through the Kerzhensk Woods in the Borsky District, Gorky region

dollars trickle down periodically from high court officials to ever-descending ranks of functionaries. The various holidays meant gifts, staggering in value, number and size. Wholesale corruption and thievery made the major exclaim: "I have seen things that astonish me." Influential men stole while serfs died by hundreds.

Czar Nicholas I was a narrow, harsh tyrant who had neither the inclination nor time to consider the welfare of his humble subjects. Mention of the word "liberalism" almost terrified him. Yet he had respect for Whistler and was actually fond of the energetic, good-natured American engineer. He gave the major unhampered authority. The czar regarded him as infallible, with a solution for every problem that came up.

Whistler's construction chiefs did nothing without the major's sanction, and the legend of his ability spread all over Russia. Czar Nicholas made evident his regard for the American, particularly in the way he reprimanded certain noblemen-engineers who had been covertly trying to undermine Whistler as a low-blood, untitled American. On a day set aside for the Engineering Corps to visit the Academy of Fine Arts, the emperor entered the gallery and, pretending that no one else was present, walked to Whistler, took him by the arm and paced slowly down the hall with him, talking in a kindly manner. The nobles took the hint.

The endless pressure of Major Whistler's duties never kept him from remembering he was an American. He felt that wearing a Russian uniform would indicate servility, so he never donned one. He and his straight-laced wife Anna, and their boisterous children, maintained an American home in St. Petersburg with Amer-

RUSSIA WOULD like to forget it had to call in an American over native talent to build the country's first railroad, and can't forget Stalin—*Dzugashvili's* more notorious name even appears on certain locomotives. The *Stalin* steam engine is the most powerful passenger locomotive operating on Soviet railroads

IN THE SPRING of '42 during Hitler's blockade of Leningrad, locomotives appeared on the streetcar lines, hauling carloads of bread flour, *above*. *Vistler* perhaps would recognize Moscow's Leningrad station, *below*, where trains start the 420-mile trip to what was once St. Petersburg

ican customs and American food, even to pumpkin pie on Thanksgiving. Sunday was rigidly observed with family Bible reading.

HIS FAMILY was never allowed to forget its American roots. He told them stories of how he walked miles to school through midwest forests, how he surveyed the Great Lakes region on snowshoes. He assured his eight children that the Russian forests and prairies were nothing compared to those of his boyhood region. After three years in Russia, Major Whistler began looking forward longingly to the day he could take his family back to America. He expressed himself quite strongly on the subject.

"America is the only country worth living in," he wrote friends. "I wish with all my heart our people could visit Europe. They would return satisfied and be thankful for the blessings they enjoy in the United States."

Above all, he urged his son, William, not to plan a career in czarist Russia.

But cholera shattered Major Whistler's dreams of returning to America. In 1849, he was fatally stricken only a few months before the St. Petersburg-Moscow railroad was completed. He was brought home to America, to a grave in Stonington, Connecticut. His son George, disregarding his father's advice, stayed on in Russia to push development of the imperial railroad system. He, too, died in his 40s.

When Major Whistler died, his son James—the frail, mercurial little Jemmie—was 14. He had studied art and attended exhibitions in Russia but his progress was slow and ability failed to show itself to any marked degree, then. The family returned to America and Jemmie was sent to West Point, with dubious results. But in later years he sometimes called St. Petersburg his birthplace. It sounded so much more aristocratic and fascinating than the familiar Lowell, Massachusetts.

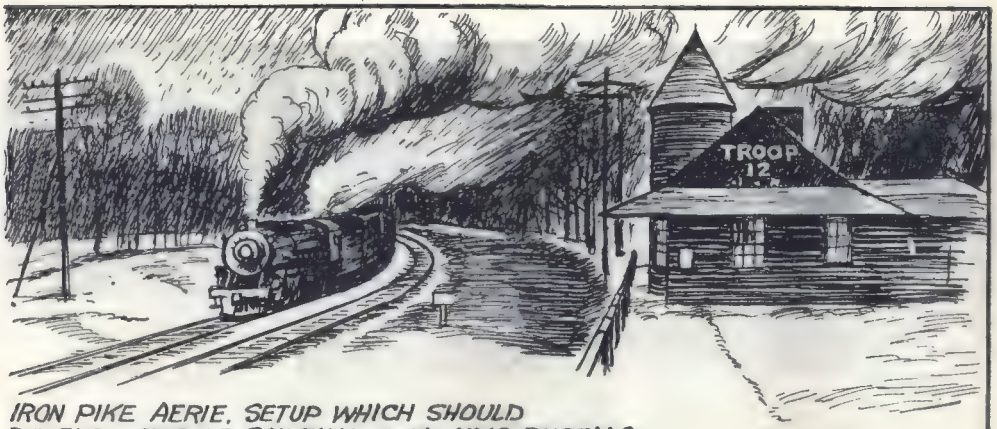
ELECTRIC EXPRESS TRAINS run across the Suram Pass in Georgia. Note recessed pilot under normal, European-type buffers

ALONG THE IRON PIKE

by JOE EASLEY

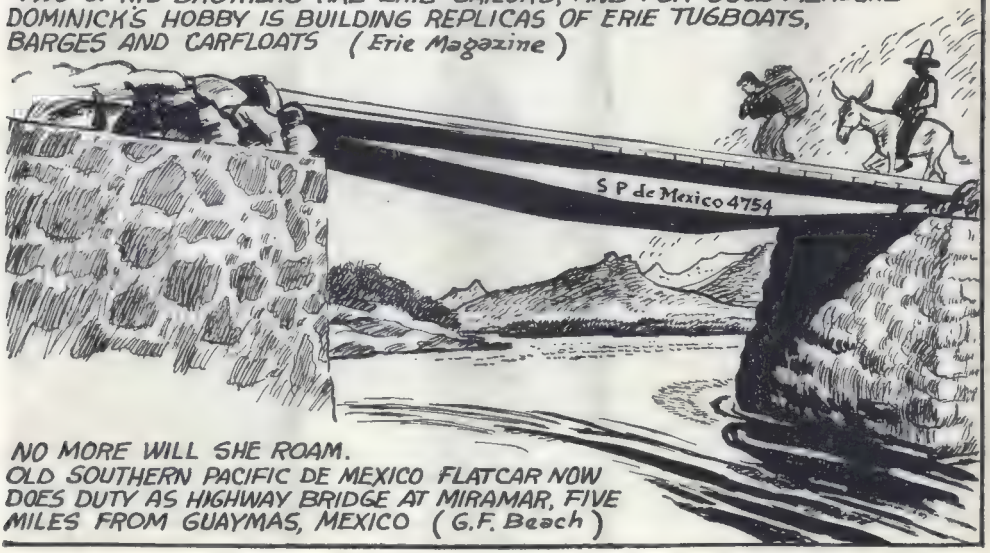
CITIZENS OF HOPKINS, MINN. WERE CURIOUS TO KNOW HOW TRAINS WOULD GET AROUND TELEPHONE POLE IN MIDDLE OF TRACKS. EXPLANATION: FAST-WORKING TRACK-LAYERS PUT DOWN RAILS BEFORE POLE COULD BE MOVED (Arch Billing)

FREIGHT HANDLERS IN TOKYO, JAPAN WERE STARTLED BY SIGN ON LIVE SHIPMENT FROM LOS ANGELES ZOO: "PLEASE HANDLE CARELESSLY. SHE PREFERS HANDS, BUT WILL EAT A FOOT IF OFFERED" (C&O Tracks)

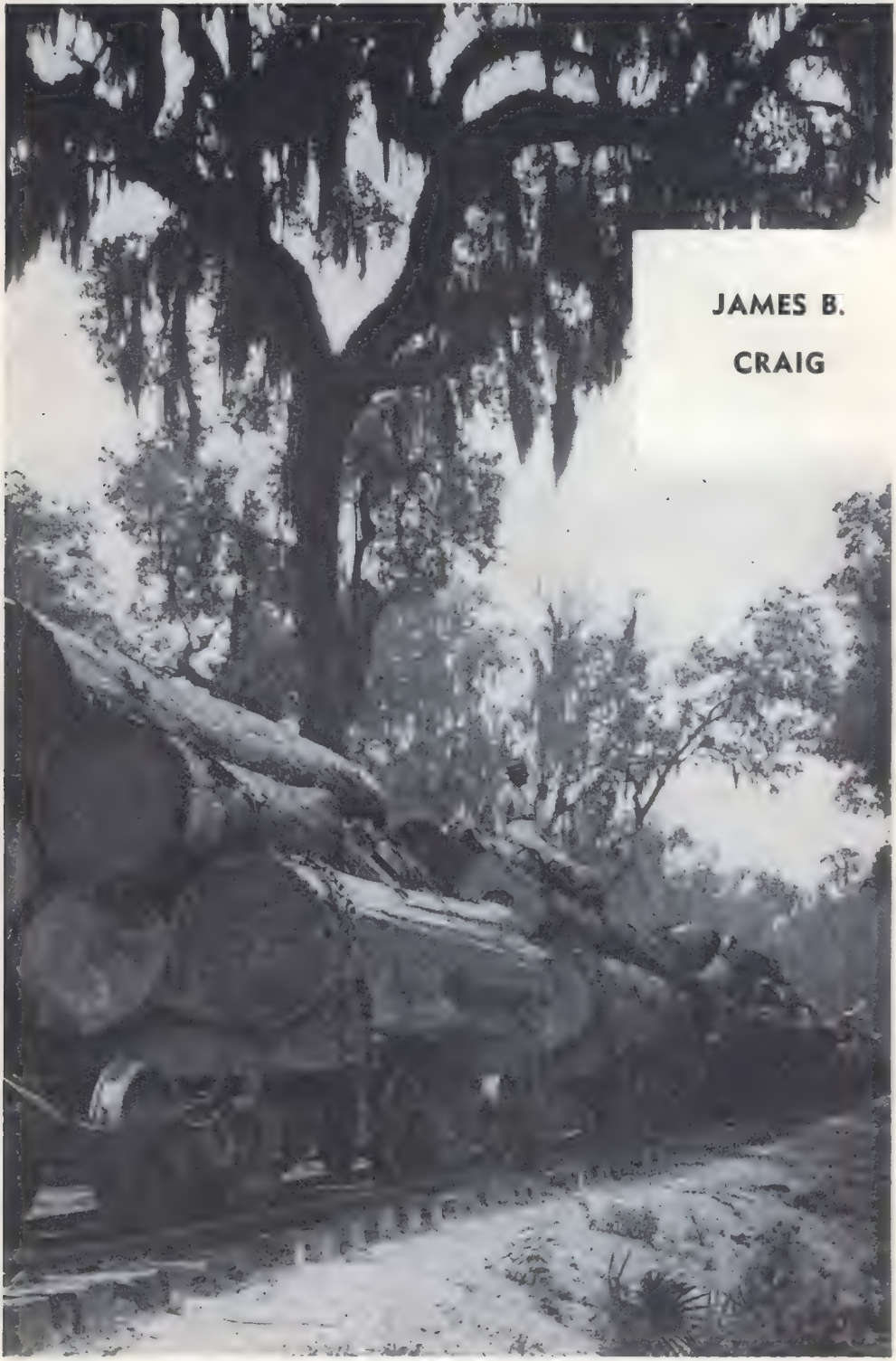


IRON PIKE AERIE, SETUP WHICH SHOULD DEVELOP FUTURE RAILFANS IS EX-NYC BUFFALO BELT SUBURBAN DEPOT NOW HOUSING BOY SCOUT TROOP (Wm. C. Kessel)

SEAGOING RAILROADER DOMINICK LAUS IS NIGHT CAPTAIN OF TUG CHICAGO, OF ERIE'S NEW YORK HARBOR FLEET. HE WAS BORN ON ERIE BARGE 292, OF WHICH HIS FATHER WAS CAPTAIN. TWO OF HIS BROTHERS ARE ERIE "SAILORS," AND FOR GOOD MEASURE DOMINICK'S HOBBY IS BUILDING REPLICAS OF ERIE TUGBOATS, BARGES AND CARFLOATS (Erie Magazine)



NO MORE WILL SHE ROAM. OLD SOUTHERN PACIFIC DE MEXICO FLATCAR NOW DOES DUTY AS HIGHWAY BRIDGE AT MIRAMAR, FIVE MILES FROM GUAYMAS, MEXICO (G.F. Beach)


JAMES B.
CRAIG

Seaboard's Warren White Foresaw
The South's Industrial Revolution
In Wood Pulp, And It's Paying Off

SEABOARD'S GREEN GOLD

HOW THE SEABOARD Air Line Railroad convinced the Southland that its economic future depends in large measure on the "green gold" of its forests is a saga of service in the best traditions of railroading. It is also the story of a general industrial agent, Warren T. White, who developed a new concept of railroad service that has been spelled out in terms of new industries, bigger payrolls and an improved standard of living for the area Seaboard serves.

Long before the exodus of the pulp industry to the South starting back in the thirties, general industrial Agent White, a self-styled "curbstone forester," concluded that a major industrial revolution was in the making in wood pulp, and that it could, if properly handled, prove to be the greatest stroke of good fortune for Southerners since the invention of the cotton gin.

White had no crystal ball but he did add up facts that pointed to potent economic conclusions. With pulpwood running in short supply north of the Mason-Dixon line, he knew that six Southeastern states served by Seaboard—Virginia, North and South Carolina, Georgia, Florida and Alabama—possessed the greatest untapped reservoir of pine and hardwoods in the nation. Moreover, the growth rate of Southern pines—a yard a year in height—couldn't be matched anywhere.

He was also reasonably certain that roping in new pulp industries, in itself, wouldn't be enough. Before spending millions of dollars to establish new mills, Northern businessmen would want assurance that Southern woodlands would supply continuing crops of pulpwood. Industrialists would also take a dim view of excessive fire losses in the South every year and the general indifference of many woodland owners to their forest lands.

To overcome hurdles jeopardizing the success of long-term operations, White decided that something new would be required in railroad annals—a hard-hitting forestry division to stress the importance of growing trees as a cash crop, an education program that would preach wise forest use along Seaboard's 4150 miles of arteries through the heart of the piney woods and hardwood belts.

At that time, many Class 1 railroads had foresters whose duties pertained only to the acquisition or production of forest products for the carrier's own use. The Seaboard forester would devote his efforts to serving new industries and working with any and all agencies helping to grow

All photos by American Forest Products Industries

IN THIS DAY OF PLASTICS, wood is still king on the Seaboard Air Line Railroad and elsewhere in a wood-hungry nation

more trees, including state forestry setups, extension groups and civic organizations.

There was imagination in this plan, for in appraising Seaboard's capabilities White banked on a number of factors, some concrete and some intangible, but all real and alive. For example, there were 18,000 employes in the Seaboard family who could become spokesmen for forestry wherever a train stopped to pick up mail or deliver freight. Then too, while he counted on the good will the carrier would create, he also banked heavily on the good will it already enjoyed. For railroads have always been synonymous with service and there are few families whose lives have not been touched by some phase of it. What better catalytic agent to promote wise woodland management than Seaboard workers who were part of every town and hamlet in the Southeast?

"Given the proper incentive, Americans can overcome any obstacle," White told Vice President G. B. Rice in presenting the plan to him in 1936. "And the incentive here is a good one—the ring of the cash register. Once the owners of countless 'farm forties' are convinced that tree farming pays off, all our other problems, including huge fire losses every year, will evaporate."

This plan sounded good to Rice and he gave his prompt approval. Well aware that railroads are users of wood as well as haulers of wood products, Rice knew that Seaboard—in fact all railroads—have a big stake in forestry. Railroads have always run on wooden ties and while 16 percent of Seaboard's total freight revenue is derived from forest products, the system's own maintenance requirements include over 1,000,000 crossties a year, 15,000,000 board feet of lumber and 3,000,000 board feet of switch ties.

With the way cleared for action, Seaboard's industrial contact men invaded key business centers in the North where they described a new land of promise with fast-growing Southern pines which could be grown and harvested as a crop until Judgment Day. These contact men—and representatives of other carriers and Chambers of Commerce—won industry's attention. In less than two decades the number of pulp mills in the South has increased from a dozen to over fifty. More are moving in all the time and White predicts that present tonnage figures will be doubled in the next 15 years.

SEABOARD's newly-launched education program was serving as a bugle call rallying Southerners to the banner of wise woodland use. As anticipated, an influx of new industry created new problems. Woodland owners hungry for the crisp greenbacks they received for their pulpwood were often indifferent to the importance of tree farming as opposed to clear cutting. Fire losses continued to mount, despite the new importance of wood to feed hungry mills.

"Do everything you can to grow more trees in the territory served by Seaboard" were White's orders to A. E. Wackerman, the carrier's first industrial forester. Wackerman moved swiftly, setting up demonstrations of good cutting practices and cooperating with lumber and pulp and paper mills in setting up their own forestry organizations.

Cooperation with industry was stepped up again when Charles A. Gillett, now managing director of American Forest Products Industries, succeeded Wackerman in 1939. Gillett soon learned that the best-made management plans were continually disrupted by damaging fires and he decided to do something about it. The result was Seaboard's first *Conservation Special,* a three-car "schoolhouse on wheels" which toured the Southeast for six straight weeks in 1942.

Employing old-fashioned circus tactics, including advance publicity and contests for school children, this train, a symbol for forest fire prevention if ever there was one, stopped at every crossroads, was visited by 56,000 people. When the *Special* arrived, school was let out for the day. Farmers left their fields and housewives their kitchens. Governors, mayors and a senator or two addressed audiences from the *Special's* rear platform after the

CHARLES GILLETT, former forester for the Seaboard Air Line Railroad, convinced the International Paper Company in encouraging farmers to grow trees, and he sold Seaboard on the *Conservation Special,* a schoolhouse on wheels, and on mechanical tree planting, *above. Below,* gum farming is an important phase of the vocational agriculture program of Seaboard, particularly in Georgia, Florida and Alabama, where the future farmers abound

tour through the train to see the exhibits and view the films.

Audiences left with a deeper appreciation of what wise forest use can mean in terms of the South's future economic security. As White says, "this public relations program on wheels reached people where they lived and the result was a concerted effort to do a good job in forest management."

Tree planting also hit a new high after Gillett's efforts. For example, one day on a visit to the South Carolina state tree nursery, the forester found that officials were about to plow under 1,000,000 seedling trees which farmers had shown no inclination to buy.

"I've got a buyer for those," Gillett said.

A few hours later the Seaboard forester approached one of the southern managers of the International Paper Company, informing him that he had 1,000,000 trees for him to purchase. Gillett explained that the paper company was going to need a steady supply of wood for pulp in years to come, and should encourage farmers to grow trees which the company could buy.

This made sense to the International manager. He bought the trees on the spot. A few days later county agents throughout the state spread the word that free seedlings would be made available, courtesy International. The entire lot was planted and the reaction was so favorable the company bought 500,000 more. The state took the program over a few years ago and in 1949 distributed 30,000,000 seedlings. Now it's an annual event.

When Gillett left the Seaboard in 1944, the carrier offered its forestry post to a young extension forester employed by the Florida Forest and Park service. His drive to integrate forestry into Florida's vocational agriculture program had caught

CRIBBING CROSSTIES, pyramid-fashion, for air seasoning. Seaboard, like any other railroad, is always in the market for them. Its reforestry program is helping to make sure a steady supply is maintained. Through the years there have been some 2000 different materials tested for crossties but nothing has ever matched wood

the watchful eyes of the Southeasterners.

By accepting this position, Robert N. Hoskins, at 27, became the youngest industrial forester in the nation and he brought with him a two-fisted, double-barreled program. Not only would the Seaboard Railroad continue to cooperate with its pulp and paper mills and hold forestry demonstrations on a larger scale to instruct the adult farmer and landowner, but every boy in the Southeast who enrolled in vocational agriculture would be taught the value and care of timber crops along with other agricultural crop studies.

TO THE SOUTHLAND the Seaboard's vital interest in its forests was already an incentive to care for, protect and expand its God-given fringe of green. To the farm boy the program offered exploration in a new realm. In short order, hundreds of farm boys were devoting care and attention to the proper management of woodlots. They were rewarded for achievement with trips, all expenses paid, to Camp O'Leno, Florida's forestry training camp near High Springs.

That first year, four of the Seaboard states joined hands with the railroad and a number of wood-using industries in sponsoring this program. Two other Southeastern states came in the following year.

This program has made giant strides each succeeding year. Every spring Forester Hoskins, accompanied by representatives of state services and wood-using industries, travels some 5500 miles to inspect the forestry projects of all contestants, selected and submitted by vocational agriculture departments in the respective states.

Today the veterans enrolled in the on-the-farm training program are also learning wise timber management. The overall

THE SPLINTER FLEET. Seaboard's pulp trains have increased to the point where the road has pioneered a new type of flatcar. Instead of hauling wood in this manner, the newer flats go in for oblique loading of crosstie material, making for faster unloading

vocational program to date in the Southeast has resulted in the planting of 16,685,889 seedlings, the thinning of 236,654 acres, the construction of 6028 miles of fire lines and gum farming of 1,270,835 faces.

Last year Seaboard gave six state forestry winners trips to the national Future Farmers of America convention in Kansas City. District winners received cash awards and are eligible to again compete for state honors. More and more emphasis is being placed on the rural leadership of farm youth and many of these forestry winners have held high state and national offices in the FFA.

"Working with these young people is the equivalent of writing out a big insurance policy on the South's future," White comments.

For example, John L. Tart, a top FFA winner from North Carolina in 1945, has since graduated from vo-ag school as an agriculture teacher. He now has his own FFA program in Eureka, N. C.

The effectiveness of this work with FFA has been well demonstrated by a 200 percent gain in boys' individual projects in Florida and increases in other states of 65 percent and above. Both White and Hoskins believe that their work can be done most effectively through organized groups. It is to such groups that Seaboard's *Forestry Bulletin*, the first railroad forestry publication in America, addresses much of its material. The mailing list of this publication has more than tripled over the past five years and last year it reached a new peak of 15,000 readers.

IN ADDITION to his ambitious youth program, Hoskins has managed to increase the scope of Seaboard forestry demonstrations for adult farmers and woodland owners. These all-day affairs are often attended by as many as 1000 people. Morning sessions are devoted to actual woods work in selected areas with owners taught the rudiments of thinning and selective cutting, how they can raise better crops of trees by ridding land of undesirable species right from the start.

Afternoon sessions feature mechanical equipment. The Seaboard Railroad pioneered in promoting use of the mechanical tree planter in the South. Results have been good, as attested by the fact that the number of tree planters in the Southeast has increased from none to over 300 since 1945. And the demand for seedlings has skyrocketed. This year the nurseries will produce approximately 160,000,000 seedlings, an increase of 50,000,000 over the previous record.

Today, the payoff on this Seaboard program is visible everywhere. Industrial foresters, grown from 343 to 860 in 10 years, now give free forestry advice to small woodland owners in the Southeast, a service which prompts White to comment that "the arrival of the pulp industry in the South was the best thing that ever happened to conservation." More and more woodland owners are growing trees as a crop. As anticipated, steady income from the sale of tree crops has proved the most potent forestry missionary of all, has produced income for new automobiles, washing machines and other family needs.

Few programs have had a more sparkling public interest in selling the idea that it pays to grow trees. Today it is impossible to travel through the Southeast and not bump into some phase of this Seaboard program. Nor has its impact been confined to the South. Passengers on the crack North-South *Orange Blossom* express to Florida read all about Southern forestry on dining car menus. Hoskins, in addition to his Seaboard duties, has found time to campaign for industry-sponsored *Keep America Green* programs and initiate a nationwide tree-planting program in his capacity as vice-chairman of the agricultural committee of the U. S. Junior Chamber of Commerce.

"We're doing pretty well," White admits with a twinkle. "Not long ago I saw 300 woodland owners standing in the rain so they could learn all about sound cutting methods. That's progress. We've got more 'curbstone foresters' and 'green gold' today than ever before."

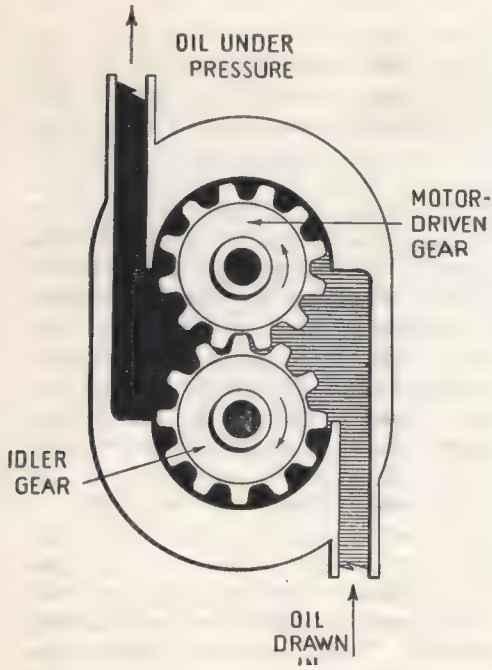
PART I

DIESEL FUEL OIL SYSTEM

It's Based on the Premise That the Oil Must Flow Freely, Requiring the Railroads To Use Less and Less Bunker-C Diesel Fuel

ONE OF THE main sales features of early Diesel-electrics was fuel economy. Manufacturers created the impression that this new type of locomotive would burn low-grade crude oil, which sold in 1934 for 5¼ cents a gallon, delivered to the purchasing road. Today, locomotive Diesel oil costs 15½ cents a gallon. Inflation accounts for about half of the 190 percent increase in price. The remainder can be charged to the discovery that Diesels simply cannot operate well on Bunker-C oil. They require a highly refined product, only one step removed from low-octane gasoline.

Diesel fuel pump is simplicity itself. Meshing gears, revolving at high speed, lift oil from tank and drive it under pressure towards injectors



Without going too deeply into fuel characteristics, it should be pointed out that the oil must flow freely. Bunker-C does not, particularly in cold weather when a waxlike substance forms, preventing the injector pumps from delivering a proper supply to the cylinders. The oil must also have a flash point, fairly constant, at about 150 degrees Fahrenheit. This prevents fumes which form in summer months from creating a fire risk along the distribution line. Again, the burning point must be low enough to insure perfect combustion during the split-second power strokes. Lastly, the fuel must have a low sulphur content. Otherwise, cylinder walls and other parts deteriorate rapidly.

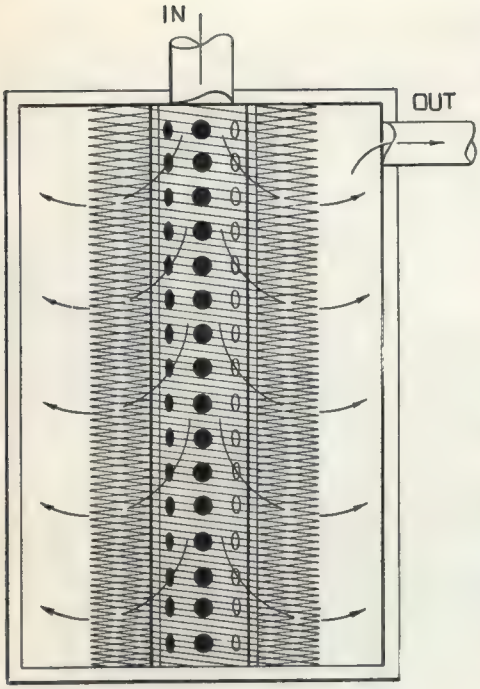
The big refining companies can supply a fuel which meets these requirements—at a price. But it is up to the locomotive, itself, to keep the oil absolutely free of foreign matter which can contribute to road breakdowns and costly replacements. Today this is accomplished so successfully that scored pump plungers and cylinder walls are a rarity.

Let's trace the modern fuel supply system from tank to injector to see what has been done to supply clean oil to the Diesel engine.

Above the frame of our locomotive

there is little space not required for the engine itself, the complex electrical equipment, and such adjuncts as hot water boilers, water and sand storage tanks, cooling radiators and blowers, dynamic braking apparatus and crew facilities. As a result, the fuel tank can generally be found cradled beneath the frame between the trucks. In the case of yard engines about 600-gallon capacity has been found adequate, as such units consume a relatively low average of but 200 gallons a day.

Road units, on the other hand, have greedy appetites. They may burn 1½ gallons a mile; therefore the tank capacity is generally increased to 1200 gallons—enough for an 800-mile trip. The ability of this unit to travel so great a distance between refuelings is naturally one of the reasons for its popularity. And even when more oil is needed, the loading time is small. Up-to-date piping facilities and



Sock filter has perforated cylinder, surrounded by wool yarn windings, to block oil impurities. Elements are easily and inexpensively replaced

venting allow for flows of 75 gallons a minute, making it possible to fuel up during an ordinary station stop.

The tanks, themselves, are all made of heavy boiler plate, welded rather than riveted—to prevent the slightest seepage. Filling plugs are located on both sides and gages on sight glasses are provided, so that crews will know when to shut off the supply. To release air which would otherwise be trapped in the top of the tank, a large pipe runs up over the cowling and vents at a point well outside the rails, away from burning fusees or the blazing oil pans under switch points during winter weather. In addition, a flame arrester in the pipe eliminates any possibility of explosion within the tank.

REGARDLESS of the make of a locomotive, the fuel system beyond the tank follows more or less a set pattern, and one which is completely independent from the operation of the engine itself. The heart of the delivery line is a small pump, driven by a battery-fed electric motor. As shown in our *first diagram*, it consists of two gears running in a casing. The electric motor shaft is connected to one gear which, in turn, drives the other. The oil enters on one side of these rotating gears and is set in rapid motion as it is caught by the teeth and forced, under pressure, to the outlet and on into the engine.

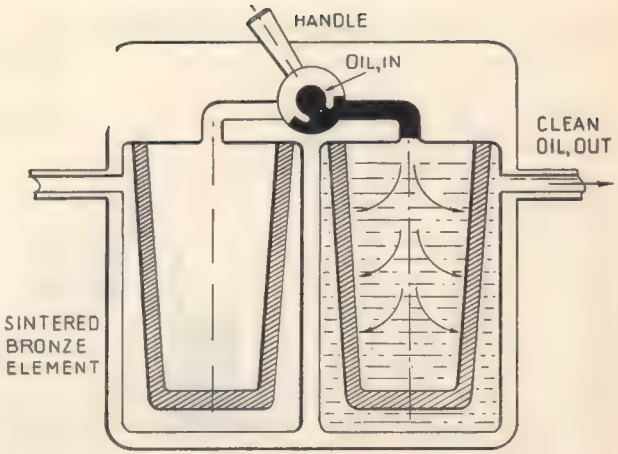
Before the oil enters the pump it must first pass through a filter, which removes much of the foreign matter, and then through an emergency cut-off valve which can be tripped in case of fire. Three controls are provided for this purpose. One is on either side of the line and the third handle is located in the cab.

The filters, for their part, vary in design, depending upon the manufacturer, but all serve the same purpose. That is, to trap fine particles of dirt which are bound to mix with the oil. Today the two most popular forms are the sock and the sintered bronze filters.

In the sock type, *diagram 2*, the element is built up by winding woolen yarn about a perforated metallic cylinder. This assembly is set in a casing which allows the oil to enter between the outer wall and the wool, pass through the windings and on through the perforations to the interior of the cylinder. Naturally, the dirt caught by the wool would eventually prevent oil from passing. But replacement units are inexpensive and their application or removal takes but a few minutes. Gages show an engineman exactly what the pressure in the feed line is at all times, and there is a safety valve so located that should a filter become clogged the oil is returned to the tank before any damage can result.

The sintered bronze element, *diagram 3*, is a General Motors' feature. These elements are cup-shaped, and composed of tiny bronze spheres pressed firmly into a porous mass. Much tougher than clay or any similar substance which would disintegrate under vibration, the sintered bronze will permit oil to filter through slowly, while holding out foreign matter.

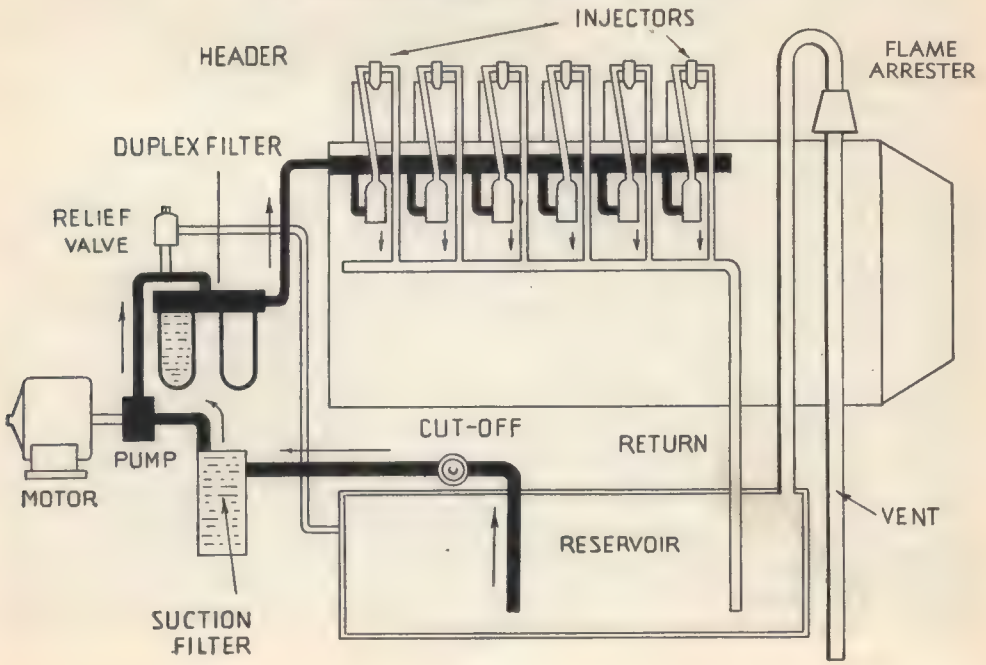
While a single filter is adequate on the suction side of the pump, it has been found best to provide a duplex filter between the pump and the engine. A valve allows oil to flow through one filter at a time, with a change being made by the fireman at half-hour intervals. This minimizes failures, for both filters rarely become clogged simultaneously. Should the pressure start to rise, the valve handle is merely shifted and the trip completed, with enginehouse forces making the necessary repair at the terminal.

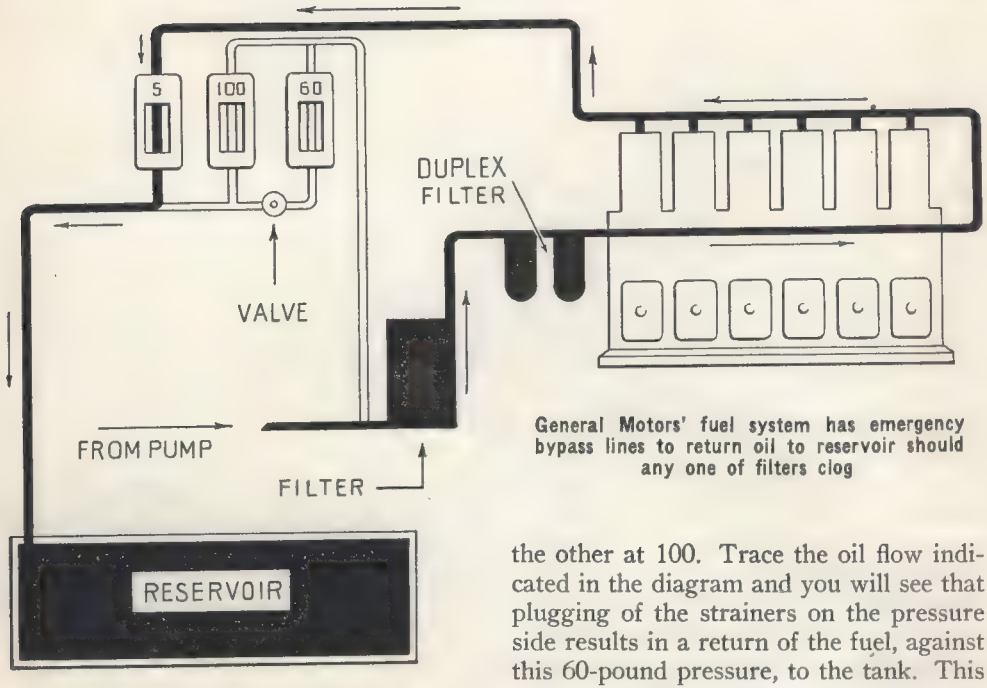


Duplex filter provides insurance against road failures. Should one element clog, Diesel engine continues to receive fuel through duplicate filter. Cups are made of small bronze spheres, pressed together into a rugged, porous mass

Study of *diagram 4* and *diagram 5* shows that the General Motors' fuel system differs somewhat from other designs. The variations are necessary because it uses what is known as a unit injector. That is to say, the helix pump and injector are confined in a single mechanism. To insure an absolutely clean supply of oil, GM employs four filters. The fuel is drawn through the first of these by the pump and then shot through the sys-

Schematic plan of typical Diesel fuel system, showing location of pump, filters, injectors, return pipe and flame arrester-protected vent





General Motors' fuel system has emergency bypass lines to return oil to reservoir should any one of filters clog

tem. There it enters another large filter and then a duplex. In addition, each injector has a small fourth filter, hardly larger than a sewing thimble. No damaging dirt can possibly get by this setup.

Great care must be taken with the unit injector to prevent high pressures due to dirty strainers. Because the injectors use only a small amount of the oil supplied, the surplus has to be returned to the tank, Normally it flows through a pipe into a glass with a relief valve set at 5 pounds' pressure. While the engine is operating, the return oil can be seen flowing back in an even stream and with sufficient resistance to build up to about half the height of the glass. Should there be any flaws in the piping, small bubbles will appear, indicating that air is entering at some point of leakage. Repairs are then made at the end of the run, because any break in the supply of fuel will cause the engine to skip. In the event that engine gases are causing the bubbles there would be even worse troubles.

In addition to the 5-pound glass there are two others, one set at 60 pounds and the other at 100. Trace the oil flow indicated in the diagram and you will see that plugging of the strainers on the pressure side results in a return of the fuel, against this 60-pound pressure, to the tank. This may prevent the engine from loading up due to inadequate fuel. If necessary, a valve can be closed, putting the 100-pound relief valve into operation. This pressure still will not harm the system but is cut in only as an emergency measure.

It may appear strange to those unfamiliar with Diesel operation that the fuel must be so carefully conditioned, but as we will see in succeeding articles injector pumps are machined to one ten-thousandth of an inch and the tiniest piece of abrasive material will scratch both wall and plunger, rendering it useless. And the injector itself, with openings drilled the size of a human hair, must be kept open at all times to maintain high atomization of the fuel. Improper combustion, with its resultant smoke and carbonization, lowers the efficiency of the engine, and does great damage to moving parts.

Continued next month

Each month Information Booth prints answers to rail questions of general interest submitted by our readers. We do not reply by mail.

Information Booth

This question-and-answer department is being conducted by Alfred Comstock, a surname which should strike a familiar chord to ***Railroad Magazine's*** many readers. As you may have guessed, Al Comstock is the brother of ex-editor Henry B.

Q *What's this I hear about the Mopac washing the outside of its boxcars?*

A Now, for the first time on any railroad, we believe, the blue and cream *Eagle Merchandise* cars of the Missouri Pacific Lines are cleaned on the outside with the same loving care that is bestowed on the swankiest piece of passenger varnish. The accompanying photo shows one step in the process of washing an *Eagle Merchandise Service* car at St. Louis, one of a number of places on the system where similar operations are carried out. Other points at which freight cars are given thorough washings are Kansas City, Omaha, Wichita, North Little Rock, Palestine, San Antonio and Houston. In general, the washing process is that used on passenger cars at most terminals—a man equipped with brushes, running water and detergent goes to work on the cars and stays with the job until the film

SQUEAKY CLEAN. The MoPac's *Eagle Merchandise Service* freight car exteriors are being given the brush-water-detergent treatment at seven cities, the latest wrinkle in selling

Missouri Pacific Lines

Frank Quin, 8414 88th Street, Woodhaven, N. Y.

THE B&O and other roads serving the Port of New York are going in for standardized scows and lighters built on Staten Island, home of the Baltimore & Ohio-controlled S.I. Rapid Transit Railway. Frank Quin snapped this Class D-I SIRT switcher of 1865 vintage in 1946

of dust and grime picked up on the road has been rinsed down the drain. Though freight cars are the revenue earners on the railroad, making it possible for the passenger equipment to roll, no one ever thought of washing them on the outside until the new *Eagle Merchandise* cars were put into service. Then the cars looked so gay and bright in their coats of *Eagle* colors that it seemed a shame to let them become dull and weather-beaten on the outside like most freight cars. So, it was decided to start washing them periodically to preserve the exterior finish. The practice of cleaning the interior of freight cars has become popular in recent years because shippers realize that a clean interior offers better protection to the lading. Thus, the *Eagle Merchandise Service* equipment carries this one step further. Only difference between *Eagle* cars and the regular run of boxcars is that the former are not permitted off Missouri Pacific or Texas & Pacific rails.

Q *Can you tell us about the new plan to standardize railroad-owned scows and lighters in New York Harbor?*

A Rail lines serving the Port of New York are acquiring an important new tool, standardized scows and lighters of steel construction, for the movement of rail-originated cargo to shipside in the harbor. Members of the General Managers Association, representing railroads of the area, agreed at the launching of the first units in the new fleet at the Staten Island yard of the Bethlehem Steel Company last fall that the equipment has numerous advantages over the wooden craft to be replaced. For example, agreement on a standardized steel scow of a size somewhere between the largest and smallest of existing units is expected to facilitate mass production of the craft and yield economies both in construction and maintenance. The basic new unit is a scow 90 feet long and 30 feet wide, with 9 feet, 3 inches depth of side.

Cow and a Calf

A cow and a calf, railroad lingo for the new Diesel-electric locomotives made up of an A unit with a cab and engineer's controls and a trailing power plant which doubles the horsepower, will become common as the Union Pacific places eight new transfer engines in service on the California Division, six at San Bernardino and two at Kelso in helper and heavy-switching duty. EMD-built, each unit carries a 12-cylinder V-type Diesel engine that turns a generator to produce electric current for the traction motors. On each unit four traction motors are geared to eight driving wheels, giving tremendous tractive effort and adhesion needed. Scotchlite trim improves night visibility. The idea is similar to one instituted by the Canadian Pacific and used on both the C&O and the New York Central

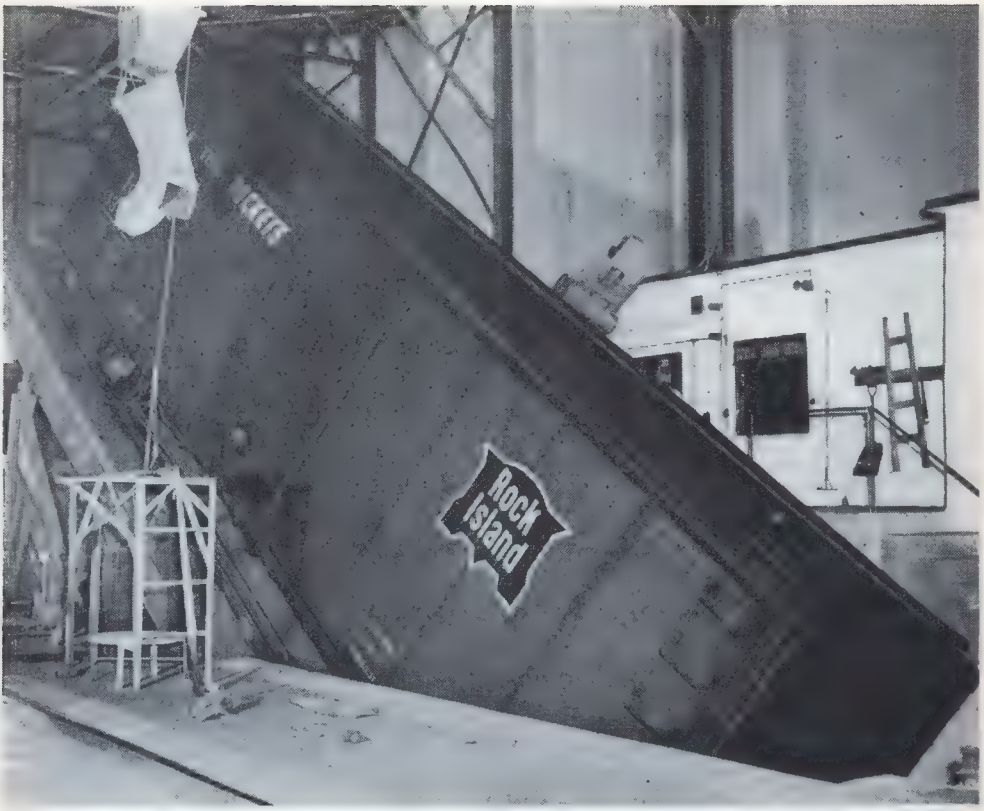
Its construction requires about 140 tons of steel. The production lines at the Staten Island yard expect to be able to launch two units a week as the program gets into full swing, dependent on the availability of steel. For a lighter, with the addition of a freight house, about 10 tons more steel is required. The completed scow or lighter is capable of carrying about 300 tons of freight, or four to ten rail carloads. Design of the unit is such that even heavy concentration of weight on certain deck areas can be achieved with a minimum hazard of capsizing. The harbor fleet of railroad-owned scows and lighters now totals more than 1000, mostly of wooden construction. Rail officials said rebuilding of such equipment now costs about 25 percent of the price of new units, a figure considered uneconomical. Hence, it is expected that replacements will be made as rapidly as possible with the new standard steel scow. Cost of the new units is about $50,000 for the scow and $60,000 for the lighter. The Delaware, Lackawanna & Western Railroad, which has ordered 30 scows and 10 lighters, finds the total cost of $2,100,000 can be financed on conditional sales contracts over a five-year period. Lackawanna's first orders will enable retirement of some of its present fleet of 140 scows and lighters. The New York Central, operator of the largest rail harbor fleet, has ordered 40 scows. While the design of the new craft is standardized, sectional construction will allow for some variation in length, if desired by a road for special use. Standardization also is expected to facilitate repair and the accumulation of some stock of repair materials by the carriers.

* * *

Q *I hear that the Paris subway is planning to operate trains running on rubber-tired wheels, rolling in concrete grooves, without rails.*

RUBBER-WHEELED subway trains are being tried on Paris' Metro system, on the Lilas-St. German-des-Pres run. The half-weight car rolls in concrete grooves

Keystone Pictures, New York City



Enid News & Eagle, Courtesy of Rock Island News Digest

UNLOADING of Rock Island boxcars of wheat is simplified these days—the cars are simply tilted on a special platform

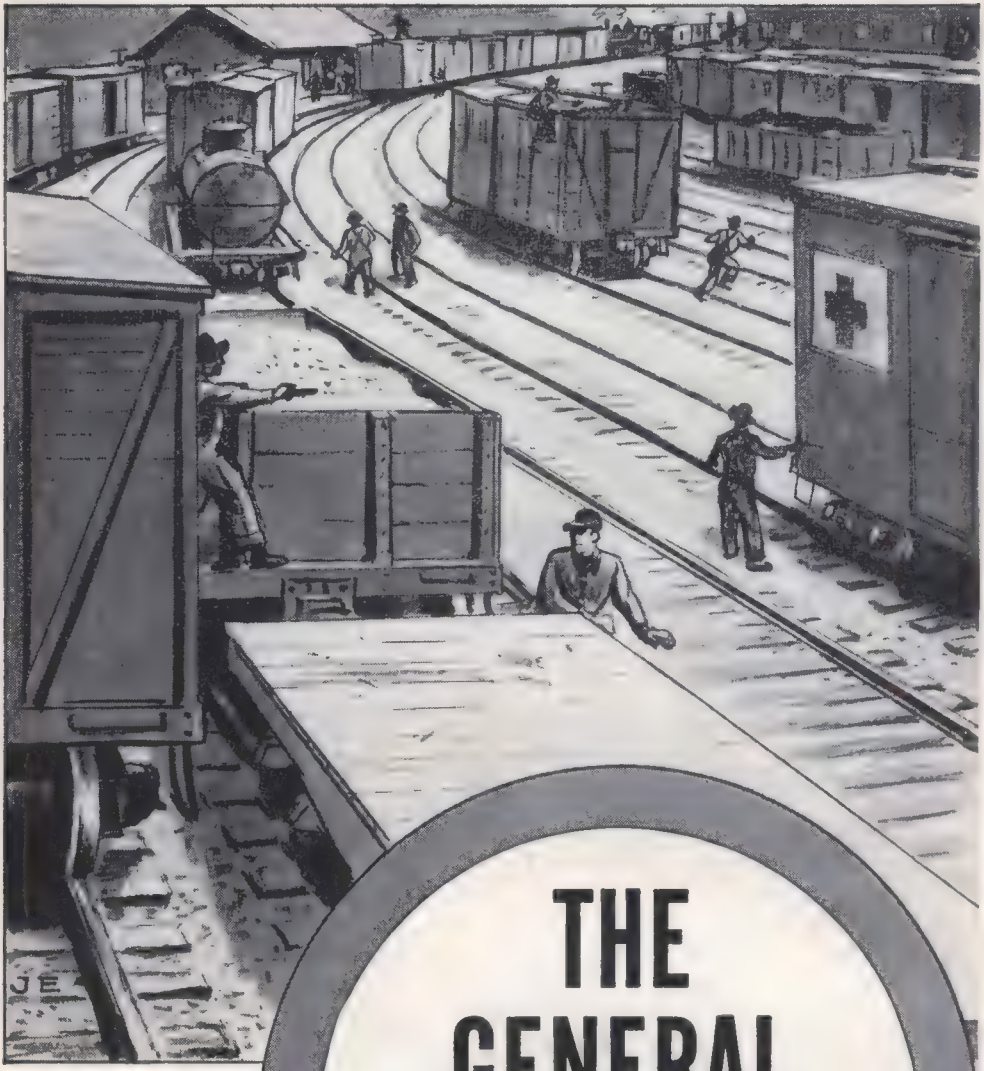
A The Metro subway system has built a train of this type and it was tried out last December on the Lilas-St. Germain-des Pres run. Engineers said that Paris subway trains will eventually be of this design. The tires are pneumatic. The weight of a car has been cut more than 50 percent. Electric motors are placed beneath the cars and propulsion is achieved by driving shafts linked to the four wheels. The system permits quicker acceleration and braking and the lowered center of gravity affords higher speed.

* * *

Q *How long does it take the U.S. Steel subsidiary which bought 13 old steam locomotives from the Boston & Maine to process the scrap from such steamers?*

A Eighteen weeks. The scrapping problem is a complicated one. To process 2000 tons of high-quality scrap from the 13 coalburners, the American Steel & Wire Company of Worcester, Mass. first had to haul the discarded B&Me motive power 100 miles to the scrap yard, with a modern Diesel.

A crew of burner operators worked on four locomotives at a time. After the cutting, all of this scrap was sorted. Earmarked for open-hearth furnaces were plates, tubes, wheels, fireboxes, and miscellaneous sections. Cast iron and similar materials were routed to foundries. Copper, brass and bronze parts returned to the railroad for remelting into replacement fittings for the B&Me's new Diesels. Approximately 4000 tanks of oxygen alone were used on the cutting.



THE GENERAL MANAGER'S STORY

Conclusion

E. G. BURDICK

as told to

BILL KNAPKE

Maybe Most Top Brass Are Born With Ink in Their Veins But Here's One Who Boomed Around With the Best of Them

AFTER A FEW months at Ogden, I took a vacation and went to Pocatello to visit with the boys in that relay job. I had become quite friendly with these men while working with them on the wires. At Pocatello the manager was named Stephenson. Eddie Manson was chief dispatcher, E. E. Calvin was division superintendent, and H. V. Platt, trainmaster.

Pocatello was a small railroad town, one of the best known names in railroad circles. It was a boomer center and an endless parade of rails came and went. Its fame and notoriety were mainly based on that old gag, "Pocatello night yard-

master," it being claimed that no boomer was a real railroader unless he had been night yardmaster at Pocatello. While I was there, Eddie Manson called me and said, "Burdick, you've got to go to Payette and relieve the night operator there, as I had to send him to Weiser."

So to Payette I hied. The agent—named Chase, as I remember—was a brother-in-law of H. V. Platt. That was a great fruit country. While working there, I was amazed at the action of a young man who sent a message to his sweetheart, living in Russia, at a transmitting cost of $85.00. Boy, 85 bucks to wire your girl! That made an impression I've never forgotten. When the regular operator returned, Manson asked me to relieve another operator at Shoshone, Idaho.

That was the junction of the then Hood River branch of the OSL, running to Ketchum, Idaho not far from the now famous resort, Sun Valley. A woman at Ketchum had a goat milk dairy and processed cheese from goat's milk. Jay Gould, while vacationing at Pebble Station, sampled some of the cheese and later wired from New York for a supply of it. I handled the wire and in it, Jay Gould made the provision that the cheese was not to be sent unless the woman would accept the full market price for it. It seemed that on a previous order she shipped the cheese but would not accept payment, probably being one of those people who prize the honor of giving to notable characters.

It was at this same station, Shoshone, that I first met J. H. Dodds, who later became assistant superintendent for Southern Pacific at Los Angeles. At the time, he was conductor of the mixed train between Shoshone and Ketchum. From Shoshone I moved to a station named Monida (named from a combination of Montana and Idaho) and today I can't find it on any map I have, but it was not a great distance from Yellowstone Park for an elderly gent, whose name I've forgotten, would bring me a mess of grayling trout each time he came for his mail. There was no building other than the depot at Monida, which didn't make for a bright and cheerful life. My brother came to visit me while I was there and due to the fact that the chief couldn't find an operator to fill the other trick, my brother was hired as night operator. He couldn't telegraph but could recognize the station call letters, so when there was an order to copy he'd wake me and I'd take the order.

It didn't take me a great while to tire of that set-up so I resigned and returned to Ogden. There was nothing open on the railroad wires at the time, so I relieved a Western Union operator at Salt Lake City for a couple of weeks and took the licking of my life. The typewriter was just coming into use and the guy I relieved had a Smith-Premier double case machine, while the only machine I was familiar with was a Remington single case. As there was no Remington available I had to copy with a stylus. Oh me, oh my! I was copying Western Associated Press and the sender was a chap named Jack Swift and, brother, could that bird pour it on. I copied an average of forty words per minute from 6 p.m. until 2 a.m. Gosh, I'd stagger out of that office like I was drunk, with my fingers drawn and cramped so badly that I could scarcely hold my knife or fork when I took my lunch. That was, I'm sure, the toughest two weeks I put in in my whole career. Nothing but pride ever enabled me to stick it through. The pride that I could handle any job of telegraphy that I was assigned to.

When I finished the Salt Lake job there was an opening in OG office at Ogden and I returned there, but after a few days was sent to the yard office. The Ogden yard was a very busy one. J. H. McCoy was yardmaster and soon after I went there, R. T. Burdette, from Cheyenne, came and started work as switchman. Burdette later was trainmaster on the SP at Los Angeles. A man with whom I was friends for many years and who died a short time ago, Charlie Miller, was callboy there. I was on that job when the 1894 American Railway Union strike occurred. Many speak of that strike

as the "Pullman Strike" because its primary cause was the inhuman treatment of its employes by the Pullman Company. It was certainly a bitter struggle all over the country. Both UP and SP yards were filled with perishable freight and expedite merchandise, even some half-dozen Live Poultry Transportation cars loaded with poultry were stuck in the yard. All our families profited from those—free eggs and a certain amount of fryers being given to employes.

Our yard office remained open even though there was no movement of cars. The ending of the strike brought sadness to all of us at Ogden, not for the cessation of the strike but for the fact that through it so many of the oldtimers at Ogden had to leave there and seek employment elsewhere. In their places came a flood of men from the East, most of whom had been strikers in some Eastern state and who, like our old friends, were compelled to migrate from their established homes. The ARU strike, like others before it and since, was an affair in which no one gained but everyone lost.

FROM THE yard office I finally went to the Union Pacific freight office, having a desire to learn waybilling and rates. Through billing had not yet been adopted nor had through movement of cars. It was then the practice to transfer freight from the cars of Eastern roads to those of Western roads for ultimate delivery. Needless to say, this was a wildly extravagant operation. There was a very large transfer platform that, night and day, rumbled under the backward and forward movement of hand trucks moving a vast quantity of goods back and forth.

There was also the matter of rates. While freight charges were rated as through, despite the fact that shipments were rebilled, intermediate charges were much higher than the through rates. To cite an instance, a shipment from New York to Ogden cost more than the same shipment would if destined for San Francisco, in many cases more than the combined cost New York to San Francisco plus the rehaul cost San Francisco to Ogden. It was a rate clerk's duty to know and figure such rates whereby he could save the patrons the difference in cost by figuring the shipment on a through haul and rehaul basis. I don't know if I've made this clear but believe me it was no simple thing to learn. I've always been rather proud of the knowledge I gained there. I honestly believe that I knew at least 75 percent of all rates in the United States, through and intermediate, and if one has any knowledge of freight tariffs he will realize what a stupendous amount of memorizing that involved.

It was during the period I was in that freight office that I joined the ranks of Benedicts, and do you know, two of our children are following right along in their dad's footsteps. One of 'em, Joe, is holding down the job that I retired from and another, Virginia, not being qualified by reason of sex, did the next best thing—she's married to a division superintendent, A. S. McCann, SP, Western Division.

Away back in this I mentioned learning shorthand and I had kept up in practice, so while I was in the freight office I made many friends in the city and started dabbling in local politics. One of the affairs I became interested in was the election of J. A. Howell to judge of the Second Judicial Court of Weber County, Utah. As a result of my efforts in his behalf plus my knowledge of shorthand I was appointed court reporter, but before I could get settled in the job my wife had a very sick spell and her doctor ordered her to seek a lower altitude. Ogden being at some 5000 feet elevation, it was too high for her condition, so we got out of there pronto and thus found ourselves in San Francisco late in December, 1905, without employment and darned little money.

That didn't worry me, but my better half was terror stricken, both from the fact that she had never before been that far from home and because of the non-employment situation. It was also partly due to crossing the bay on the ferry. It

was a couple of days before she ceased feeling the vibrations of the boat. After a little sight-seeing, I called on D. W. Horsburg, auditor of freight accounts for the SP, and presented a letter of introduction that cited me as an A-1 freight rate accountant. Said Mr. Horsburg, "I'm fully supplied with freight accountants right now but I never let a good one get by me. You come to work in the morning and we'll find something for you to do until a regular job shows up." That is the only time in my life where I ever had a job made for me and believe me I appreciated it.

I remained with Mr. Horsburg until April 9, 1906. On that date, through the manipulations of Burdette and Dodds, I was sent to Los Angeles to be trainmaster's clerk and also to put into operation the "Jumbo Book" car accounting system. You remember I mentioned both Burdette and Dodds a while back and that I had met them on the Oregon Short Line Railway. There was considerable controversy at that time between the old employes of the SP and what was called "The Short Line Bunch." The latter had been sent there by E. H. Harriman to straighten out certain conditions on the road. That, naturally, did not sit well with the old timers and there I was injected right into the midst of it. I had tried to avoid going to Los Angeles for that very reason but Burdette and Dodds outmaneuvered me.

The car accounting (I won't dignify it with the title system) when I arrived in Los Angeles was not a joke, it was tragic. Here was what happened. The yard clerks checked both arriving and departing trains in a book for a twelve hour period. At the expiration of their tour of duty the book was sent to the local freight office for entry to a permanent car record. Thus there was no record in the yard office of cars arriving one day until late in the afternoon of the next day. Under the "Jumbo" system, arriving conductors brought a list of cars in their trains, together with waybills for each loaded car. A yard clerk hastily wrote out cards, of various colors and about 2x2 inches square, that designated destinations, industrial plants or other movements. As soon as these cards were made out, a car checker dashed to the train and attached cards to cars, using a switch list as a guide. All of this, including the entry of cars in "Jumbo Book" at office, was held to a maximum time of 30 minutes. Thus, records of cars arriving could be had 30 or 40 minutes after arrival instead of the 24 to 30 hours that it had taken previously.

The local force of car tracers, claim clerks, etc. were really amazed. They couldn't believe it possible. The strange thing about the installation was the antipathy shown by all officials to its adoption, though it was much to their benefit. When it was first proposed to the superintendent of transportation (who was, I believe E. L. Ruby), he tossed it into the wastebasket, saying he wanted nothing to do with anything the Short Line Bunch advocated. The same reaction followed all along the line down to and including the yard clerks. It was the constant insistence of Burdette and Dodds that finally brought the matter to a head.

WHEN I arrived at Los Angeles I had a meeting with H. V. Platt, general superintendent, who had been won over to trying the scheme. During the conversation he said, "If this system is what you claim for it—and it better be—go ahead and get it going." So far as the SP was concerned, I was the guinea pig for the trial. As I had become acquainted with the routine away back on the DL&W at East Buffalo, N.Y. there was no doubt about its working and my only difficulty was lack of cooperation by the yard office employes. To give the devil his due, however, those same employes once convinced of its merits were among its most enthusiastic boosters. A short time after, the system was adopted for use over the entire SP.

That was a strange official set-up when I went to Los Angeles, for as I said above, E. H. Harriman was not pleased

with the "family affairs" he found existing when he took over the SP. To break it up he first sent W. H. Bancroft, of the OSL, to be general manager. Mr. Bancroft for personal reasons returned to the OSL and E. E. Calvin was sent to succeed him. Mr. Calvin, to insure loyal subordinates while in office, brought in Platt, Dodds, Burdette, Bill Jones and, I suppose, me. Gradually the old timers, who refused to conform to certain modern alterations, were transferred to other divisions or roads or, in a few extreme cases, fired.

My wife and I had left San Francisco April 9th and on April 18th, 1906 Jack Griffin, general yardmaster at Los Angeles and I were eating lunch in Bill Judd's restaurant when Jack pointed to an incandescent light bulb suspended from the ceiling that had started swinging to and fro. "Earthquake and not too far away," said Jack. The swinging came from a slight tremor that followed the heavy one that caused the San Francisco disaster. Though the San Francisco quake had occurred at 6 a.m. the news did not reach us at Los Angeles until around 2 p.m., and then via St. Paul, Minn. and Denver, Colo. The rest of that day and many days thereafter our River Station yard was a scene of feverish activity involving relief supplies, diverting through shipments around the stricken area, incoming trains loaded with refugees. All this added to the normal movement made a madhouse condition that anyone who went through it will never forget.

River Station yard was then the largest yard and nearly all breaking up of trains was through the "Bull Ring" or North end (West end, timetable direction) of the yard. A natural grade caused cars to coast rapidly and some 15 to 20 "hump riders" were used. Like all humps, it was a hazardous place to work. "Tex" Newland was Bull Ring yardmaster. He was an artist at the job and whenever I had an opportunity I'd go on the bridge that spanned the yard and watch the cars rolling into the various tracks. Sometimes there would be a half dozen cuts all rolling at once and the switch tenders along the lead would be dashing about like madmen lining the proper switches for the cars that came rolling along. Later on another yard was added to River Station yard and it was named the "Midway." I believe both those yards are practically abandoned for switching purposes nowadays as a very large classification yard has been built a few miles North of them.

I remained in the yard office until May, 1908 when I was offered a place at Mexicali under Señor A. F. Andrade, at that time in charge of the Inter-California Railway, or to give it its Spanish name, Ferrocarril de Inter-California de Baja California, Mexico, which was a subsidiary of the SP. Señor Andrade's father was Mexican Consul to the United States. He himself was a cultured gentleman with considerable experience in passenger and freight traffic, but very little if any on the operating side. He requested the SP to furnish a man to handle the operating end of the job, one who was capable of train dispatching, supervising agents, local and general railroad accounting, auditing, compiling freight and passenger tariffs, etc. The SP officials selected me or rather offered me, subject to Señor Andrade's approval. I remember very distinctly my first contact with him in the Van Nuy's Building in Los Angeles. I feel certain that the Burdette-Dodds group had boosted my stock very highly, for the interview was short and sweet. I introduced myself, we shook hands, he gave me a brief scrutiny and asked, "When will you be ready to leave for Mexicali?" "That is for you to say," I replied. "Tomorrow?" "Yes." So the next morning, which was May 14th 1908, found me a passenger enroute to the scene of my new activities.

Fellow passengers were Harry T. Corey of the California Development Co., Jack Carrillo, engineer in charge of construction, Inter-California (Jack is a brother of Leo, the well known actor) and Señor Andrade. At Old Beach, a station later named Imperial Junction and now, Niland, we changed trains and boarded a

mixed train for the remaining 41 miles of our journey. It was a very warm day and it was not long until my nose detected a new and not altogether unpleasant odor and upon inquiry was told that its origin was canteloupes which were beginning to be one of Imperial Valley's leading crops. It was but a few years later that canteloupes were shipped to the extent of 9000 cars per season from the Valley.

But to return to my advent on the scene of my future activities. At Calexico we were met by Señor Andrade's servant, a no-speka-English cholo named Pancho (which could mean any fat man) who turned over to him (Andrade) a horse and a two-wheeled, two-passenger cart, that being the means of transportation between the Señor's home in Calexico and his office in Mexicali. As I remember it, both of us put up at the Calexico Hotel for quite some time thereafter.

PERHAPS a brief summary of the Inter-California Railway set-up will give you a clearer picture of my activities. The SP main line, Imperial branch and the Inter-California form, roughly, a right-angled triangle, the base being the Imperial Branch, the side the Inter-Calif. and the hypotenuse, the main line. It was built to shorten the haul from Valley points to Yuma but was so little thought of by most railroad officials that they termed it, "Harriman's Folly." The line only extended to Tecolote, 52 kilometers east of Mexicali, at the time I arrived.

Under Mexican laws it is required that the general offices of a railroad be maintained within the Republic, and the Mexicali office was created primarily for that reason. The office building was under construction and we were temporarily housed in an old adobe residence. Our office force consisted of the bookkeeper, Pablo Dato, a highly educated old chap who was quite a linguist, speaking English, French, German, Spanish and I don't know how many others. He was a cranky old cuss but I liked him and found, while he didn't know a thing about railroad accounting, it didn't take him long to get into the swing of it. His daughter married Governor Cantu and still resides in Mexicali. The next on our force was Fernando Villasenor, the clerk. He and his wife and stepson occupied the house we used as an office. The last of the force was the above mentioned, Pancho, (we nicknamed him "the Savage") as janitor. As soon as we moved into our new building we acquired a stenographer, Miss Traviskis, a sister-in-law of Andrade.

My first task was the creation of various forms for the accounting and auditing reports. Señor Andrade was no slouch on general ideas and I found the course I had taken with Bryant & Stratton in Buffalo to be extremely helpful in the mass accounting system we were formulating, all of which had to be approved by the Mexican Government inspectors. And believe me, about the hardest job in the world is to get approval of anything with which a Mexican official isn't fully acquainted.

Construction was still at a standstill beyond Tecolote, and in order to get the road in operation we put on a turn-around run, Mexicali to Tecolote, once a week until construction was resumed, extending the line to Algodones-Andrade, the boundary line. Algodones is on the Mexican side and Andrade on the Californian. Then there was the final link, Andrade to Hanlon Junction, where we connected with the SP's main line, 7 miles west of Yuma, Ariz. A month or two after completion, a heavy rain storm followed by a flash flood draining the slopes of Araz hill, washed out almost the entire trackage. To avoid a repetition of such an occurrence, another survey was made that moved the junction point a couple of miles further east, and the new junction was given the name of Araz Jct., which it still bears.

In the eyes of the SP officials, the Inter-California bore the relation of a very much not wanted stepchild. The track was unballasted and laid with used 50 lb. rails. However, they served their purpose during the period before I succeeded in convincing General Manager W. R. Scott of the feasibility of using the road as a time

saver in the movement of perishable freight from Imperial Valley to Yuma, and don't think I had an easy time convincing him for he contended that the matter of meeting Custom and Immigration regulations could not be handled without too great delay. He also contended that the 50 lb. rail would never stand such heavy traffic and that endless wrecks would occur. Despite his doubts he finally agreed to let me go ahead, but warned me that on my shoulders would be the responsibility for any and all mishaps.

That was the toughest 50 lb. rail I ever saw. It was carrying traffic 200 percent heavier than it was intended for and we never had a single derailment or accident. But don't think that all I had to do was open the gate at the line and shoo the trains across. Not much. I had to devise new forms of clearance papers that the slow-moving, disinterested Mexican departments would approve, and if you think that wasn't a long drawn-out struggle you've never been in contact with such bureaus. There are several ports of entry located along the U.S.-Canadian boundary and I communicated with those points and obtained copies of their customs and immigration forms for examination, but they proved of little value to our set-up, principally because our crossings would be of such miscellaneous character they did not coincide with U.S.-Canadian traffic. Another difficulty I met was the indifference of the technical employes of the various bureaus I contacted, most of whom seemed to feel it was their duty to throw as many obstacles in the path of any poor cuss who was endeavoring to expedite traffic as they could devise, and most of them were grand devisers.

Anyhow, we poked and prodded determinedly, slowly gaining ground until we arrived at a satisfactory degree of movement. Another difficulty we encountered was that of language. Many of our employes could not speak English. Nearly all the American employes had a smattering of Spanish, but it was sometimes difficult to convey orders or instructions. I have always felt very grateful to the Mexican authorities for their understanding and leniency in those days in the matter of observance of Mexican laws. Generally, Mexican law requires the employment of its citizens in preference to foreigners, but the officials recognized the necessity of using trained employes and never made the slightest objection to the use of Americans in the general office, as train dispatchers, trainmasters, roadmasters or trainmen and enginemen. We did use Mexican labor wherever it would fit. All local office work, section foremen and trackmen were natives and darn good men they were. We continued this policy until 1938 when, under pressure of the government, we began the use of Mexican switchmen in our Mexicali yard, and they proved very efficient. A little later we began using them on all local train service, but never on through service across the boundary.

But to revert to the traffic of my early days. Our local traffic, both freight and passenger, began growing rapidly as there were a number of ranches to be served, the Cudahy ranch at Hechicera, the Big Five ranch at Bataques, and Lynch, Finn, Quinn, Phelan and Dougherty—a finer bunch of sons of ould Erin you could never meet. Then there was Lee Little's California-Mexico Land & Cattle Co. and several others of smaller domain, though just as important to us. With the agreement on customs and immigration having been arrived at and all difficulties ironed out, perishable freight from Imperial Valley began rolling over our line in volume. We handled more than 9000 cars of cantaloupes in a two months season, as well as hundreds of cars of other early vegetables. Our level grade permitted 125 car trains with but one locomotive. As a matter of fact we ran one test train of 180 cars of cants with only one engine, though we did use a small helper engine for the 3 miles between Andrade and Araz Jct. However, while the run was successful, a train of that length was found to be too unwieldly for economical movement.

When news of this volume of traffic reached the ears of the powers that be in

San Francisco there was a great awakening and we received a quantity of 62½ lb. rail. But before we got it all changed, a lot of 80 lb. rail arrived and finally enough 90 lb. steel to re-lay our entire line. That put us right in line with the SP main track and I was very much elated that our value had at last been recognized. It is a certainty that without our line the movement of the seven or eight 125-car trains daily would have been almost impossible, routed through Niland and over the heavy grade, Flowing Well to Iris.

DURING the time of the Mexican revolutions we had our share of troubles at Mexicali. The chief one was caused by one Stanley Williams, a soldier of fortune, and said to be a deserter from the United States 7th Cavalry. Williams had a force of several hundred disgruntled Mexicans, mixed with a number of foreigners, mostly I.W.W.s and others of that ilk, and first appeared in the section south of Algodones near the camp of Col. Ockerson, USA Engineers, who was in charge of levee construction along the Colorado river. How he arrived at that point or gathered his rag-tag and bobtail army and their weapons has never been ascertained. He did not disturb the colonel's camp further than to commandeer some food and recruit some of the laborers employed there. A few days later he seized one of our work trains, compelling the train and engine crews to operate it by placing armed guards over them. When the engineer told him he had used all the water in the tender, he asked if they could make the trip to the water tank on the U.S. side of the line and when told, "Perhaps. If you're lucky." Williams released them at once, with his best wishes. On that last trip he had burned several bridges, thus rendering the road unusable until repaired. He established his headquarters in the old bull ring at Mexicali and held the town until Federal troops, under Governor Vega of the Southern District, marched overland from Ensenada and routed the insurrectos, Williams being killed in the battle.

During the month or so the town was held by Williams, I got fairly well acquainted with him and he assured me that no damage would be done our property nor any of our personnel molested. As a matter of convenience we moved our office to Calexico, leaving the Mexicali office unlocked so the bandits could enter at will without breaking in. Consequently, when one Sunday afternoon I took a notion to visit that office, accompanied by my wife and Ed Graham, my stenographer, we found it occupied by a couple of the tough-looking hombres, both of them armed. I asked them what they were doing in the office. They replied, "Looking for arms." I gave them a redhot bawling out and told them if they didn't get out and stay out I'd report them to Williams. They left, but not without giving me some very surly, malevolent looks. My wife and Graham were holding their breath, fully expecting me to be shot. I presume the thing that saved me and on which I really depended, was the ingrained obedience to authority instilled in those people from childhood. Had they killed me, there wasn't a single thing that would have been done about it. Sometimes a good bluff goes a long way, but sometimes it doesn't. I was lucky.

The railroad business, both local and through, being quite light at that time, our loss of revenue was not great. Imperial Valley through freight was routed via Niland, but of course our local movement became non-existent. Some little time after the Williams bandits had been dispersed, the peace and quietude of that section was made more secure by the arrival of Col. Esteban Cantu (who later became Governor) and a considerable force of regular soldiers who traveled by rail. Their passage, under arms, was sanctioned by our Federal Government due to conditions in Lower California.

Sometime later another force, consisting of 1500 Yaqui-Mexican soldiers under command of Abelardo Rodriguez, arrived from Sonora State, after an overland march that proved tough going. It took them three or four days to cross the

I TOLD them to get going—I was lucky they didn't shoot me!

Colorado River and another two or three days to straggle through the mesquite and chaparral to our line at Paredones, where we had a train of two wooden coaches and several empty boxcars waiting for them for movement to Mexicali. Our trainmaster, Gerald Foster, was there as master of ceremonies and armed with a potent flask to insure harmonious relations. When Jerry first saw Col. Rodriquez, he thought from the colonel's disheveled and badly worn uniform, that he was up against a tough proposition. To his surprise the officer greeted him in perfect English and proved to be a cultured, high class gentleman. When Jerry called over the phone to get movement for the train, he not only neglected to mention said flask or even that he was scared stiff, he merely called in and said, "Right nice looking bunch of men—hurry us outta here." Later he told us, "they were the toughest looking human beings it was ever my bad luck to deal with. None of 'em entered the coaches, they just tossed their arms and equipment into the boxcars and

climbed on top, taking their women, children, dogs and personal stuff with them. I cautioned the engine crew to take the curves mighty easy because I expected half of 'em to tumble off on straight track. But those hombres and their tribe had the time of their lives. Fall off, why you couldn't throw 'em if you tried. They're sure used to riding the tops and I believe they could give some of our brakemen pointers on it. The colonel and I had the two coaches all to ourselves, which didn't make me a bit unhappy."

Yes, those Yaquis are really tough, mean individuals, but I want to go on record as saying the men are not one whit tougher or meaner than their women. Most of those women will steal anything they can carry, whether they have any use for it or not. And any one of 'em is an expert in the use of a knife and has no hesitancy in proving it. There is a vast difference between the Yaqui women and the average Mexican woman. The latter are generally honest, clean in person and in their homes.

I WISH I could remember the name of the commandante in charge of the troops at Mexicali who came to my home in Calexico after midnight, on an occasion, and requested immediate transportation for a body of soldiers to Andrade to quell a revolt among the Mexican soldiers stationed there. I had the lay-over crew at Calexico called to handle the train, but when I could give no further explanation for the trip than that is was for the purpose of conveying troops and that it might result in armed interference, the crew refused to go. Upon my request, my good friend Charley Rice, roundhouse foreman at Calexico, agreed to handle the engine and Charley's brother, also of the roundhouse force, served as fireman. I assumed the duties of the train crew and we departed from Mexicali at top speed. The entire trip was made without incident, the rioters becoming subdued with the first exhibition of authority. For this troop movement the railroad never received compensation. However, the crew that had been called and refused to go, put in time, claiming a runaround. Mr. H. V. Platt, then division superintendent, LA Division and through whose office American crews payrolls were handled, joined with me in refusing to honor this absurd claim, which pleased me very much.

At another time, a wildcat strike by the Calexico yardmen, who did the Mexicali yard work, having tied up our rail movement, trainmaster Foster and I did the switching at Mexicali. However, we were aided by a friendly trainman, named Davis, who was, the last I heard, still with the SP on the Salt Lake Div. We received high praise, in writing, from our patrons for keeping their supplies and carloadings moving during a period when their very existence depended on the road.

During my nearly thirty years as general manager of the Baja California properties of the SP, I resided in Calexico, the American side of the boundary line from Mexicali. As you will note, both towns' names are a combination of California and Mexico. When I first arrived in Mexicali it was a village of a couple of hundred souls; today it is a city of 60,000 inhabitants.

It was in the month of May, 1915 that Señor Andrade decided that his affairs outside the railroad could best be served if he separated from the Inter-California property. Accordingly, he resigned effective May 15th and on his recommendation I was appointed to succeed him as general manager.

The appointment put me in a position to carry out plans that had long been in my mind. I honestly feel that originating so successfully the in-transit operations as they are handled today was a worthwhile accomplishment. Long freight trains of varied cargo moves across the boundary lines at a speed of six to eight miles an hour. They are not even required to come to a full stop, as I arranged for a Government employe to ride each train from line to line. This employe is paid by the railroad and in view of the time and paper work saved, it is well worth the money. This man is on the train to see

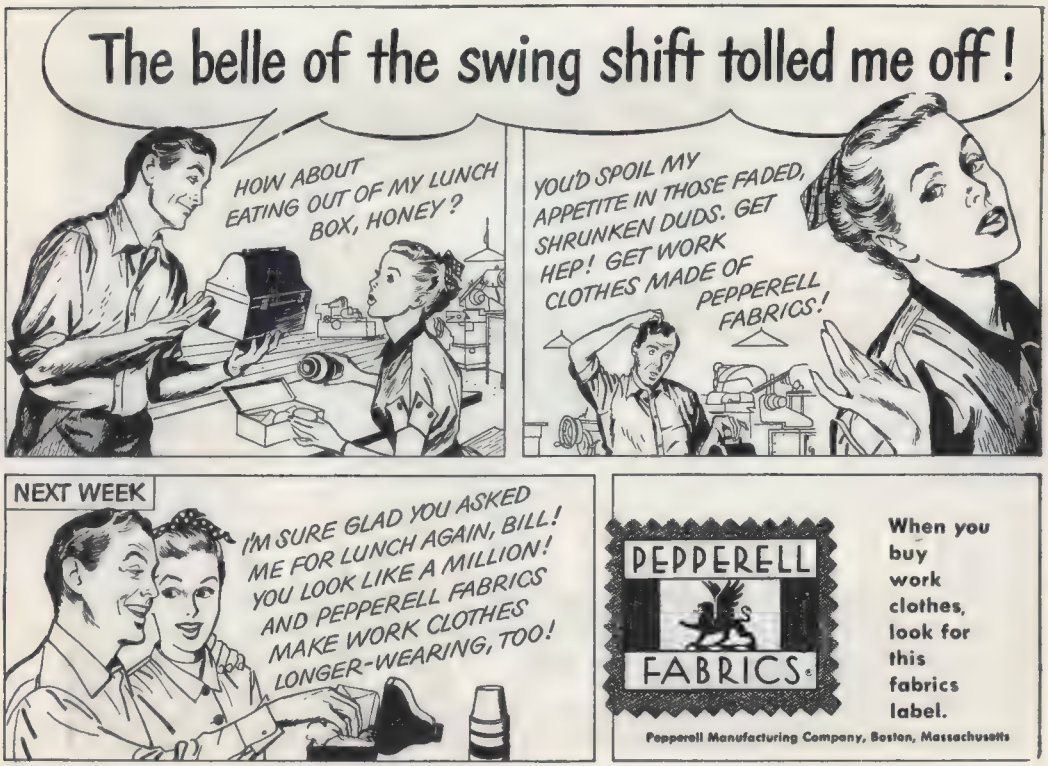
that no irregularity occurs, and of course such trains do absolutely no business enroute of a local nature.

The same arrangement is in effect for passenger trains, thus there is no inspection of baggage of through passengers. It was no easy matter to get this movement in operation as it was an entirely new modus operandi to both Mexican and United States Customs and Immigration Departments and as anyone who has had dealings with either of those departments will agree, to get a change in their specified handling of matters is difficult. It took me several years before I got it to its present high efficiency. So I feel that I can, without being unduly immodest, be very proud of that arrangement.

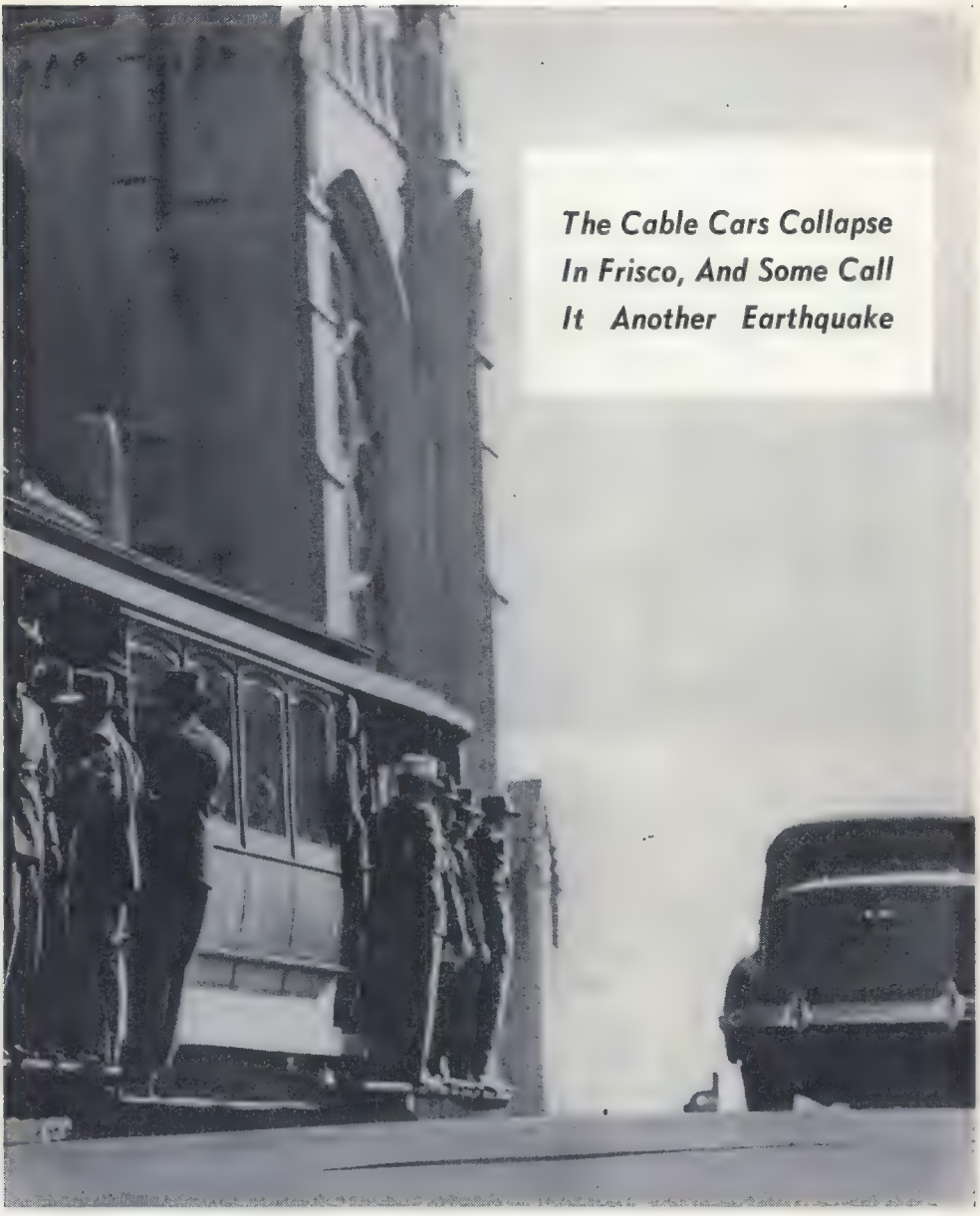
The years have rolled along, mostly happy ones, but the time finally came when I felt I was entitled to lay the worries and cares and responsibility of managership aside. Twenty-nine years, ten and one-half months from the day I first stepped on Mexicali soil, I stepped off, free and unhampered of responsibility. That date was March 31st, 1938.

I look back along my life's pathway and review the scenes of the yesteryears and the men and women I've encountered and sometimes I smile and sometimes frown, for the pictures embrace the sublime and the ridiculous.

I think of the selfishness and of the self-abnegation I have seen and with the fullness of my years I have learned to regard those deeds with tolerance and a clearer understanding of humanity.. My own life and career has brought few regrets, for so far as I could, I've endeavored to give my fellows the same treatment that I would like. Mistakes? Yes, many of them. At some of them I still blush and there are things, had I the opportunity to do over, that would be done differently. But on the whole I like to think, if I haven't done a great lot of good in this old world, neither have I done much evil. But be the record good or bad, it's finished.


The belle of the swing shift tolled me off!
HOW ABOUT EATING OUT OF MY LUNCH BOX, HONEY?
YOU'D SPOIL MY APPETITE IN THOSE FADED, SHRUNKEN DUDS. GET HEP! GET WORK CLOTHES MADE OF PEPPERELL FABRICS!
NEXT WEEK
I'M SURE GLAD YOU ASKED ME FOR LUNCH AGAIN, BILL! YOU LOOK LIKE A MILLION! AND PEPPERELL FABRICS MAKE WORK CLOTHES LONGER-WEARING, TOO!
PEPPERELL
FABRICS
When you buy work clothes, look for this fabrics label.
Pepperell Manufacturing Company, Boston, Massachusetts

UP-and-DOWN RAILWAY



The Cable Cars Collapse In Frisco, And Some Call It Another Earthquake

TED SANCHAGRIN

THERE ARE a diminishing number of persons who believe that the best of San Francisco perished in the earthquake of 1906, a statement lifted after due apologies to a former Frisco resident, R. L. Duffus, but now there's a newer generation which argues that the city's charm vanished only recently, when the last privately-owned cable car system stopped running.

Even with several postwar fare boosts, the California Street Cable Rail Road

All photos by James D. Hall, Clipper Gap, Calif.

UNTIL LAST AUGUST, clerks and brokers rubbed elbows to ride the cable cars home, from California and Montgomery Streets, but the brokers went only as far as the ritzy hilltops, while the clerks stayed on to ride down the other side, where the panorama does not affect the rent. For many the choice space on the picturesque little red cars was on the running boards

continued to run at a deficit. Unable to meet the increasing wage demands of the platform men, the line was often threatened with immediate stoppage. West Coast fans were alarmed back in 1947 when Mayor Roger Lapham plumped for the abolition of the city's municipally-owned cable system, inherited with the purchase of the Market Street Railway Company. The mayor's office was promptly deluged with protests from cable car lovers and the *Save the Cable Car League*. The problem of meeting a yearly deficit of $250,000 for the cable lines was placed squarely before the voting public, and the answer was a whopping 3-to-1 majority in favor of keeping the city's big tourist attraction at all costs, tax assessments nothwithstanding. Mayor Lapham was scrapped. Now it looks as if the cable cars will join him.

San Franciscans, who had been aided by the outraged howls of cable fans all over the globe, sat back to listen to the contented hum of the cable in the Powell Street slot. The cable cars were saved, for awhile. Then, the privately-owned line, with its famed Hyde Street Grip and red, gray and gold cars stopped running last August when Lloyds of London refused to renew public liability insurance and the line filed in Federal bankruptcy court for corporate reorganization.

The California Street line, 11 miles long, is, like the Powell Street Line, which crosses it near the top of Nob Hill, one of Frisco's tourist attractions. But it has one drawback—it doesn't make money. The Internal Revenue Collector filed a lien against the company for $9462 due in withholding taxes, but the treasury held less than $500.

Finally, the dilemma was solved, although the cable cars still aren't running. Several years ago the voters had approved a measure authorizing the city to purchase the line at a price not to exceed $150,000, but the deal was put through only last autumn, for $138,082. There was talk of running the California Street Cable Rail Road starting in October, then November, finally Christmas, but at this writing they aren't moving.

Actually, the California Street line had been piling up losses of $1000 a month. It has four cables, costing between $8000 and $9000 to replace, and away back in July one section was shut down temporarily when the Hyde-Presidio portion wore out.

When and if the line does start running, the city probably won't operate all three routes formerly kept going by the company.

"What part will be kept in operation, only time will tell," the mayor said, before the deal was consummated.

Before the city bought the line, nebulous offers to buy had been made by movie actor Errol Flynn; the Meadow Development Company, which wanted to turn the company's carbarn into a supermarket; Ben Swigg, owner of the Fairmount Hotel; the Mendocino Transit Company, and even by an unidentified real estate agent.

Anyway, the picturesque little red cable cars that have climbed over Nob Hill for 73 years aren't running.

A few tears are being shed because the city bought the line. *The Bay Area Electric Railroad Review* lamented:

"We are a little disappointed that the company was not bought by a nonprofit organization, and we are sorry that Mrs. Hans Klussman was so cool to what we consider a better fate for the historic line

Continued on page 99

WHEN NOT CROWDED, the best seats on the California Street Cable Rail Road cars were the ones facing outside, three persons to a bench. The shuttle car awaiting fares at Market and O'Farrell Streets to connect with the famous Hyde Street Grip was the smallest in San Francisco

AS THE CABLE whipped the cars around a power curve, gripmen made it a tradition to call out to the running-board patrons, "Look out!" Cable speed was constant and the grip was not loosened on the downgrade

ANDREW SMITH HALLIDIE saw an overloaded horsecar slip downhill and came up with the invention of the world's first cable car in 1873. Climbing almost to the height of the Bay Bridge, the Sacramento Street Car had to struggle up the tremendous hill

COAST-TO-COAST radio announcers of name band broadcasts made the nation conscious of "Lofty Mark Hopkins Hotel, high atop Nob Hill," but listeners couldn't see the cable cars dropping down past famous St. Mary's in Chinatown, into the financial district

than municipal ownership. Actually, we would have liked to have seen the line sold to Philip Beckwith Hackley, whose uncle, Roy Hackley, is a tunnel expert advising the city on the troublesome Broadway tunnel which was one of the causes for the difficulties of the last privately-owned street car company in San Francisco. The sad state of mass transportation in San Francisco is best told by recalling the Delos F. Wilcox report of 1927 which urged that the city purchase Cal Cable for $1,000,000. In this same report, Mr. Wilcox sadly said that the Market Street Railway Company was running about $650,000 a year short of a 7 percent return on its 47 streetcar lines. Of these, only 12 lines and 3 cable lines were earning 7 percent on the investment, so Mr. Wilcox urged that the city purchase them for $20,000,000 instead of the company-set value of $26,000,000."

So, a quarter of a century later the city is able to buy Cal Cable for some $138,000.

By no less an authority than the city's largest independently-owned newspaper, we are reminded that "San Francisco is Definitely a Streetcar Town." Businessmen, dollar-minded, appreciate the value of the cable cars' attraction to tourists. The public has proven that it is willing to dig into its municipal wallet to subsidize them.

At the last accounting the Municipal Railway was operating 27 cable cars on grades up to 21 degrees over 7 miles of track. The cars are turned around at each end of the line, on large turntables.

HERE'S HOW the cars work. The steel cable, 1¼ inches in diameter, runs in a slot below the street's surface and travels 840 feet a minute. This cable is operated from a central power plant by a 750 horsepower electric motor which turns 12 cable winders. Before the cable is run under the street it is led onto a tension carriage. This is a 10-foot wheel mounted on a moveable carriage and when slack develops in the cable the entire carriage and wheel, therefore the cable itself, is drawn back on a track from the powerhouse.

When the cable becomes worn, wears out or breaks, it is spliced at night after the lines are shut down. The cable supposedly breaks only when a car has been in an accident and a sudden strain hits it. Then the cable crew goes hunting for the broken ends. They hunt by peering into the slots with a flashlight. First, a temporary splice is made and the cable machinery is started to bring the splice into the car house, where the cable is woven together with a permanent splice 55 feet long. Frisco cable fans claim these splices are the world's longest. To lessen friction the cable is constantly slushed with special cable oil.

Between the car and the cable is a device called a grip. Incidentally, Gelett Burgess made a small reputation for himself with his *Ballad of the Hyde St. Grip.*

The grip, fastened to the forward truck of the car, extends down through the slot in the street to the cable, which is 18 inches below the slot and runs on pulleys. A semi-cylinder about a foot long, the grip is in two parts, hinged and closed over each side of the cable like a vise.

When the operator of the car pulls back the grip lever, a heavy metal plate descends against this hinged semi-cylinder, forcing the two curved hinges or grip dies to close around the cable. Two rollers, one on each side of the hinges, guide them over the cable. Too, when the operator pulls back the lever, pressure is put on the wire and the car moves. With the lever completely back, the car goes only as fast as the wire cable, nine miles an hour.

Then there are the track brakes. These are two wooden blocks 20 inches long, one over each rail between the rear wheels. The car operator handles them by a large hand lever on the front end of the car next to the grip lever. These blocks clamp down directly on the rail. Made of soft pine, the blocks or shoes last only about three days. And there's the emergency brake, a hand lever on the front of the car. When pulled, the lever causes a guillotine-like piece of metal 18 inches long to penetrate the slot, bringing

the car to an abrupt halt—and jostling the customers somewhat. Finally, the cable itself is a brake, for, when gripped tight, a descending car cannot go faster than the cable.

FROM a strictly mechanical viewpoint, the cables are still needed in San Francisco, although they aren't practical financially. When the Market Street Railway Company abandoned its Sacramento-Clay cable line just before the war, it was promised that modern buses would safely climb all the hills. However, the newly-installed bus line quickly changed its route, avoiding the high spots that the *World's Oldest Cable Line* (the Clay Street Hill Railroad, 1873) took in easy stride. Rubber on wet hills just doesn't stack up to a cable-car grip vised around a steel cable. No matter how many fast horses there are under the floor boards, they don't add up to the heavy-footed dobbins turning the treadmill at the old powerhouse.

Duffus, who has graduated from Frisco journalism to the *New York Times,* notes that the cable car was invented by Andrew S. Hallidie and financed by such hard-headed businessmen as Mark Hopkins and Leland Stanford as a practicable and money-earning means of toting people up and down Frisco's hills.

Hallidie invented the cable car in Frisco in 1873, and by 1888 it was in its golden age, until the earthquake of 1906. Twenty years after Hallidie started the cable car system, there were 112 miles of lines in Frisco and many more in other cities throughout the United States. However, with the invention of the electric car in 1890, the cable car began to decline because electrics were cheaper to run. Today San Francisco is the only city in the U.S. with a cable car system.

Some people, Duffus notes, are sentimental about forms of transportation that have passed their youth: for instance, the steam locomotive, the trolley and the cable car. However, there hasn't yet been a solution for progress over sentimentality, in San Francisco.

FRISCO'S STEEPEST GRADE was the one leading to the Hyde Street pier, so Cal Cable's No. 39 had to take a firm grip on the *rope* as it took off on its journey down the hill

GERMAN MODERNIZATION. Blue-and-cream passenger job runs on the 6-mile suburban electric railway from Buckeburg to Bad Eilsen

Carbarn Comment

STEVE MAGUIRE

NOT BEING EXPERTS on car schedules, when a reader sent us a copy of the Capital Transit Company's *Transit News* containing a formula for car scheduling, we immediately forwarded it to our expert and received a rather explosive reply. Although we don't know how many of our readers have ever tried to figure out schedules, here's CTC's formula and the rebuttal sent us:

$$(1)\quad y = \frac{x}{Pv}$$

$$(2)\quad Hf = \frac{Tp}{y}$$

According to the formulas, x stands for the number of passengers carried, Pv for Prescribed Value, y for the number of trips required, Tp for time periods, and Hf for Headway Frequency. All you are supposed to do is to put the figures together, and you come up with the answer.

In practice, x, the number of passengers, is determined by the actual count of over 40 traffic checkers employed to stand at peak load points and count the people in the vehicles. Their figures are analyzed by the Tp, time period, which is 15 minutes for rush hours and 30 minutes for base day. Pv, the Prescribed Value, is the passenger load limit permitted by order of the Public Utility Commission for each type and size of vehicle.

Now, what does our expert say? The formula just isn't a formula. They are just kidding the public. Take an actual example—let us say that 540 passengers traveled past the maximum load point in a 15-minute period. If the capacity of each car was 90 passengers, seated and standing, then six vehicles would be required, i.e. six trips.

Going to the second formula, the inter-

REAL GONE

BEACH TRAIN. When the old San Diego Electric Railway was new in '24, the 4-car multiple unit was snapped on the LaJolla line

YORKTOWN, INDIANA, even to the water tower, ten years ago on the old Indiana Railroad main drag

NOTHING BUT BUSES now in downtown Atlanta. The Georgia Power Company's No. 209 used to be a big wheel

val in the rush hour is 15 minutes. If six trips are to be made in 15 minutes, the required headway is 2½ minutes. That, of course, strictly speaking, is not a schedule. It is only the volume of service required to meet the existing traffic for a certain period, and conforming with a particular standard of service. There is a lot more to scheduling than that, particularly determination of proper short line points, total number of vehicles to fill the schedule, coordination with other lines downtown (such as use of stub terminal, thru-routing with some other line on the other side of town, operation to a far terminal across town or to a short-line terminal). Then comes cut-running. All these affect the economy of the schedule. After that, there is a lot of clerical work, such as figuring payroll hours, car mileage by runs and so on. Most companies also subject their new schedules to certain statistical tests to see whether it is a good schedule, such as payroll time per car hour, an important fact.

It isn't too hard to teach almost any reasonably intelligent person the mechanical work of writing schedules. The crux of the situation lies in the ability to write the best schedules under a definite set of conditions. Schedules have to meet the requirements of the labor contract with the employes, the regulations of the Public Service Commission, the city franchise demands, and to conform to established policies of the company itself. To meet all these tests and still write a good economical schedule, good for employes, the public and the company, requires a touch of imagination and genius.

* * *

CHANGES in passenger schedules of the Illinois Terminal Railroad meant dropping half the trains on the Springfield-Danville run with the consent of the Interstate Commerce Commission. However, on the Peoria-Decatur line, reports Pfc. Charles E. Able, Kansas State Teachers College, the ICC permitted four instead of six trains to be removed.

Two of the runs the IT line was forced to keep remained through the efforts of railfan Albert Broom, of Forsyth, Ill. He recruited many riders and stirred up interest in the towns enroute, and at the hearing he gave arguments supported by photos, in his effort to keep the trains running. Much of Broom's testimony was incorporated into the final ICC report; it shows how much a single worker with enthusiasm can do.

Soon, Able expects that passenger service on the Springfield-Danville run will be cut to Champaign. For the present, he says, a shuttle service may be used between Champaign and DeLong, but it eventually will be given up and Champaign made the eastern end of passenger operation.

According to L. C. Fitzgerald, 529 Hamilton, Wood River, Ill., the IT line is toying with the idea of giving up passenger service on the St. Louis-Alton line. The IT says it is impossible to keep making repairs on the present equipment, now at least 32 years old, and new cars cannot be bought immediately. They are too expensive, so the company is planning on buses for the line which has operated at a loss in excess of $90,000 a year.

As most of our readers know, the center-door cars of the Alton line are just about the last ones of that type still running. Since they have doors for passenger loading in the center only, two-man operation is required, thus raising the cost of operation. During the period around 1910 many such center-door cars were built, but with the advent of one-man operation, most of them were quickly supplanted by end-door cars. When the IT bought new PCC cars in 1948 we expected that they were for use on the Alton line, replacing the heavy, center-door equipment, but they were used for local service in Granite City.

* * *

CHICAGO, Aurora & Elgin's interurban line will provide service for residents of Maywood and Bellwood when the

Chicago Transit Authority stops service from Des Plaines Avenue to Westchester and substitutes buses for the elevated track, according to Earl R. Boone, Bellwood, Ill. The CA&E trains do not stop in these towns, but with bus substitution for the CTA local elevated trains, at the urgent request of citizens affected, the CA&E trains will give service.

An item sent us by C. F. Komrska, Jr. of 2252 South St. Louis Avenue, Chicago 23, recites: "When the CTA substitutes buses for elevated trains it is abandoning a better service to substitute a worse one.

"It is discontinuing the nearest approach to rapid transit Chicago has ever had and offering in its stead a service that can never be anything but essentially local, even though the buses are labeled *express* to pass up certain stops.

"Buses, *express* or otherwise, must compete with traffic, stop for red lights, creep on icy pavements, slow down in driving rains. Elevated trains, even where they run on the surface, are subject to none of these delays. They move on fenced-in right of ways.

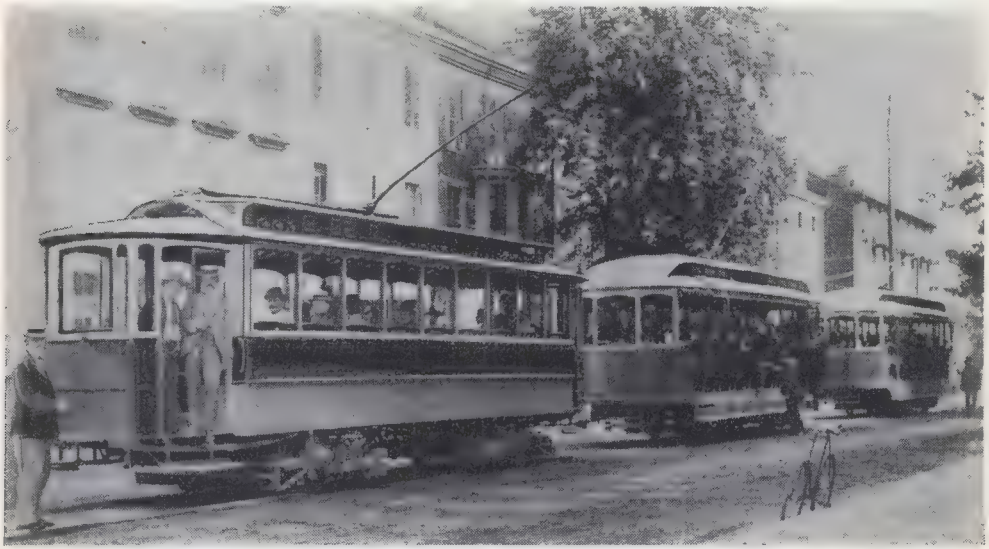
"However the CTA insists on making the change. But they should keep the tracks on which service is being abandoned. We may need them again sometime when experience has proved—as everybody but the CTA believes—that the only way you can have the rapid transit is to run vehicles on a *cleared way*."

Apparently Chicago, once so renowned for its El operations, has begun a systematic plan to give up the lighter-traveled elevated routes. Latest news we have shows that the CTA now is planning on ending the Lake Street El at Austin Boulevard, the city limits. This would eliminate a short piece of surface running where the trains use trolley poles and street crossings are guarded by gatemen. Because crossing watchmen are used on the outer ends of the Lake Street, Garfield Park and Douglas Park lines, the CTA is expected to ask to give up service in these portions.

LEHIGH VALLEY TRANSIT interurban equipment and track from the abandoned Liberty Bell route, has been purchased by Bethlehem Steel for scrap, reports Andrew W. Maginnis, Cynwyd, Pa., who states he understands that only freight motors C-15 and C-16 will be saved. These will be sent to the Philadelphia Transportation Company for use on the Broad Street subway line. This purchase dooms any plans for the Cedar Rapids & Iowa City line to purchase some of the cars for replacements on their route.

is the result of tremendous effort by the fans in the Chicago area, who have worked very hard to give us such compilations at a modest cost.

Unfortunately, we must report that the ironic fact is that the great success of the bulletins led to their downfall, since the job of compiling, editing, and distributing the copies has grown so much that the fans who have worked so hard for the past decade just can't find time any longer to devote to their tasks, for which they received no compensation.



Harry D. Lentz, Lebanon, Pa.

THE LEBANON VALLEY RAILWAY in 1899, *above. Left,* the Amsterdam & Rocton Street Railway in 1901, on Amsterdam's Division Street before the Fonda, Johnstown & Gloversville Railroad took over

J. Seaton, 216 Sixth Ave., Watervliet, N.Y.

WITH considerable regret, we received the last bulletin of the Central Electric Railfan's Association covering *Electric Railroads of Washington State.* This 90-page story of the Washington electrics is an extremely comprehensive and valuable study of past and present roads, with excellent illustrations, maps and a complete listing of all electrics that ever ran in the State of Washington. As with so many CERA bulletins, the publication

We must, on behalf of juicefans everywhere, express to the CERA our thanks and admiration for the many fine works that it has issued and we can only hope that time will permit it once again to publish the bulletins. The Washington State bulletin, $3 a copy, can be had from CERA, Box 503, Chicago 90.

As for the CERA, it will continue as a juicefan organization in the Chicago area, but will discontinue its publications.

THE TRAIN

Optimistic Citizens of Bellingham Saw Their Town Becoming a Metropolis, but Civic Pride Itself Doused Their Carefully Laid Plans

EARL CLARK

THAT NEVER CAME BACK

JUNE 22ND, 1891, dawned like any other summer morning along the steep bluffs and tideflats of Bellingham Bay. And yet every resident of the four little frontier towns fringing that remote Pacific Northwest waterfront knew it was to be an historic day in his life—the day when the first overland passenger train of the mighty new Canadian Pacific Railroad would connect the northern corner of Washington with the farm and markets "back East."

What those pioneer folk didn't know was that this particular June day would

turn out to be more memorable than they ever dreamed. Before the sun set, the reverberations of that eventful day would set off an international uproar rocking embassies all the way from Ottawa to Washington, D. C., and splash another colorful page across the gaudy history of the Pacific Northwest.

Today the bay is encircled by the busy little city of Bellingham, not too far from the Canadian border. But 60 years ago four bitterly competitive little towns nestled on its shores—namely Whatcom, New Whatcom, Sehome and Fairhaven.

They were towns which had known the fever of the Fraser River gold rush back in 1858, and the old timers liked to reminisce about the days when 15,000 roisterous gold seekers drank and brawled in the thousands of tents and shacks between the freshly cut stumps.

But the gold rush bubble broke as fast as it formed, the disappointed prospectors drifted back to California, and only a handful of hardy settlers remained.

Then came the railroads.

As coal was found back in the green-clad hills, as loggers slashed farther back the forested slopes to bring out the giant firs and spruce and hemlock, the little villages along Bellingham Bay hopefully ogled the steel rails toiling through mountain passes and connecting the lonely settlements along Puget Sound's shores. Promoters came and went, promising to bring the iron horse to Bellingham Bay—if only the folks would dig down and buy the necessary stock.

One company succeeded to the extent of laying two miles of track starting at the Sehome wharf. On this strip of line, bearing the imposing, title Bellingham Bay & British Columbia, ran the little diamond stacker *D. O. Mills,* named for the New York capitalist who was one of the road's backers. The little loco's chief purpose was to hoot and toot madly up and down the track every time a passenger boat came in, as evidence of the town's busy railroad activities. But at any rate Bellingham Bay now could hold up its head with that brawling new town to the north, Vancouver, and the little sawmill camps of Seattle and Tacoma to the south. It too had a railroad.

By now, on this bright spring day in 1891, Bellingham Bay had come far. The mighty Jim Hill in person had looked upon the site and pronounced it good. His Great Northern had reached up from the south to make the connection with the CPR. The railroads brought a more solid prosperity than the flashy gold rush of '58. A crescendo of hammering and sawing filled the air as frame buildings sprang up along the dirt streets, new homes mushroomed out into the denuded foothills climbing back to the snow-tipped Cascades. Local boosters were even challenging New York's claim to superiority among the nation's cities.

And now the Canadian Pacific, triumphant in the engineering epic which conquered the Canadian Rockies and the Fraser River Canyon, was bringing its first through passenger train to New Whatcom, loaded with dignified British Columbia statesmen, railroad vice-presidents and other assorted top brass, gold-plated financiers, Eastern newspaper correspondents, and eager promoters and industrialists.

NOTHING could be too good for such visitors. New Whatcom, Sehome, Whatcom and Fairhaven vied to take the honors in hospitality. A great arch of welcome was spiked together across the burnished tracks at Railroad and Holly Avenues. Standing 60 feet high, it was a home-grown product made of Whatcom County coal, lumber, and stone.

Warren Burgess marshalled his resplendent cornet band for the occasion, and the Carpenters' Union, not to be outdone, took a day off so its musicians could tootle a welcome. Company F, the Sons of Veterans, and the volunteer firemen all were out.

The boardwalks resounded to the clatter of caulked boots as bearded loggers in from the woods teetered in and out of the jam-packed saloons. Horses whinnied and neighed in the crowded streets, musicians

clutched derby with one hand and instrument with the other as they sprinted to join their associates. Little boys whooped excitedly as they chased and belabored each other, with apparent disdain for enraptured little girls standing by.

But the most resplendent of the 6000 people who had converged upon New Whatcom for the day's great celebration were, without a doubt, the firemen. Decked out in their dress uniforms, mustaches waxed to sleek perfection, brawny muscles rippling under freshly-laundered shirts, the volunteer smoke eaters of the Whatcom Hose Company and the Sehome Volunteers were the lions of the day.

The city fathers had arranged for the brave fire laddies to provide the climax of the celebration. New Whatcom was inordinately proud of its water system, in a day when most Puget Sound communities still relied on the bucket and the hand pump. And what better way to demonstrate civic progress than to have the firemen throw a triumphant arch of water over the heraldic train as it chuffed into the station from its long trip over prairie and mountain.

So the Whatcom fire laddies were lined up on one side of the track, hoses ready, with the brave volunteers of Sehome on the other. Around them, massed in eager anticipation, were the rank and file of Bellingham Bay, dressed in Sunday finest. Every window was crammed with spectators, and ladies oohed and ahhed at nerveless young dandies hanging their feet carelessly over the roof-tops of the clapboard store buildings. The cornetists in Mr. Burgess' famous band puffed out their cheeks and trilled a few practice runs, scarcely heard above the buzz of the great crowd.

Then suddenly hearts leaped and spines tingled as the faint whistle of the approaching train echoed across the bay from the north.

"All right, men, turn on the pressure!" shouted the rugged leader of the Whatcom firemen. His eager cohorts spread their feet wide and gripped the hose in their big hands, waiting for the surge of water.

Perhaps it was the excitement of the day, perhaps it was that last stop at Monahan Brothers' saloon, perhaps it was just the spirit of elfishness—but the Whatcom Hose Company nozzle man felt the line stiffen as the water rushed through, and at the same instant he thought he saw a sneer from the nozzle man of the Sehome company across the tracks.

The boys from Sehome were a little slower getting the water on. Their leader, a brawny blacksmith by vocation, had whirled around and yelled at his men.

"C'mon, you lilies! Didn't you hear that whistle? Get that water up here!"

He turned back to see how the rival firemen were faring across the track, just in time to suffer the grossest of indignities—a blast of water from the Whatcom Company's hose caught him square in the face, hurling his splendid cap into the air and plastering both terminals of his mustache back against his ears. Simultaneously the hose jerked in his hands and the first burst of water sputtered out on the rails.

"Oh, ho!" he gasped, gulping for breath. "So that's the way you boys want to play, hey?"

He didn't have occasion to say more, for another blast of water bowled him into a dewy fireman at his side. But the Sehome men had found their mark now, and hollered for more and more pressure as their powerful stream of water bounced around the brass buttons and shoulder sashes of the Whatcom Hose Company.

Whatever mischievous urge had motivated the boys from Whatcom, there was no backing out of it now. Slithering and falling in the mud, choking and gasping under the sheets of water, blindly trying to direct the hoses against the blasts cascading off the backs of their averted heads, the embattled firemen shouted curses and maledictions at their hated rivals across the tracks, while hapless bystanders screamed and struggled to escape this sudden deluge.

The whistle of the approaching train sounded louder now, but the maddened firemen and the shrieking crowds around

them were oblivious to it. The mayor of Whatcom made a desperate attempt to quell the battle of the fire hoses, only to retire in soggy defeat.

ABOARD the train, the engineer had his instructions—roll beneath the welcoming arch at a spanking gait and bring his gleaming engine to a stop with the last carload of dignitaries precisely beneath the arch. Every window in the train was up as the curious visitors nodded and smiled condescendingly to the cheering crowds massed along the trackside. Of course they couldn't see that the expected arch of water up forward had somehow transformed itself into a watery juggernaut burying the tracks in sheets of high pressure spray.

But the engineer and fireman could, and ducked below the cab window just in time. Not so the luckless passengers. Before the howling firemen quite realized what had happened, the train shot between their embattled ranks. The powerful streams blasted into the coaches, shattering windows and sousing the astonished customers in streams of purest Nooksack River water. Cooler heads among the fire laddies yelled to shut it off, but not quite before the last deluge from the belligerent hoses sprayed the silk hats and protruding vests of the notables on the back platform.

Scrambling to their feet from the hasty refuge they had taken beneath the seats, bankers, publishers, railroad officials and statesmen wrung water from their clothes and squished gingerly up the aisles to ascertain just what strange sort of reception this was. If they felt any urge for revenge, perhaps it was somewhat mollified at the sight of the dripping firemen, looking as if they had just been dredged up from Bellingham Bay.

The mayors and civic leaders of Fairhaven, Whatcom, New Whatcom and Sehome were abject in their apologies, albeit Hizzoner from Sehome still quivered with indignation when he thought of the Whatcom Hose's dastardly attack.

The sodden firemen curled up their hoses and waded through the crowd as inconspicuously as they could, to renew rivalries in more direct style at the first convenient alley. The welcoming speeches were mercifully foreshortened, as some of the orators were still industriously reaming water out of their ears and wriggling uncomfortably in their rapidly shrinking shoes.

At Purdy's Opera House, covers had been laid for two hundred and fifty banqueters. Ruffled tempers mellowed at the sight of mounds of food setting off fresh white linen, and the popping of champagne corks drowned out the opening remarks of Senator Frank H. Richards. It is on record that Mayor Jenkins extolled the virtues of New Whatcom, and Mayor Wilson trumpeted the glories of Fairhaven. And the Honorable H. V. Thompson brought the gathering the friendship and everlasting good will of British Columbia.

Perhaps the mayors of Whatcom and Sehome felt it more tactful to remain quietly in their seats, in view of the unwonted enthusiasm with which their respective firemen had opened the reception, or perhaps the onrushing flow of champagne had a discouraging effect upon the more formal speechmaking. At any rate there is no record of their joining their fellow mayors in the elocution of the day.

Nevertheless, hands were stretched across the border, flowery eloquence portrayed the friendship of two great nations, glowing oratory sketched out a rosy future when New Whatcom would be the American terminus of the Canadian Pacific's transcontinental operations. Once more enthusiasm rose to a frenzied pitch, and never did the prospects look more promising.

But out in the massed crowds milling around the train and moistily celebrating its arrival, the healthy competitive spirit so personified by the firemen now directed its attention to the welcoming arch. On its north pillar floated the Union Jack, and symbolizing this historic linking of the nations, the Stars and Stripes rippled in the breeze atop the south pillar.

This was well and good, but able Captain Bass, who had supervised this decorative masterpiece, had not reckoned on the red-blooded Sons of Veterans. Now one of these loyal patriots took a long look at the arch, then let out an ominous shout:

"Hey, friends! Be damned if that British flag ain't up there six inches higher'n our own!"

A mutter ran through the crowd. Patriots protested, equally patriotic citizens took violent issue with them, arguments spread and feelings mounted. A logger broke from the crowd, vanished into the Bodega saloon, and—after a decent interval—reappeared with a ladder.

Shouts of approval mingled with jeers from the excited celebrants.

"That's the boy!"

"Leave them flags be!"

"Get 'er down even with Old Glory, son!"

"Get away from that arch, you fool!"

The ladder was placed against the arch, but for a time no one mounted it. There seemed to be some difference of opinion among the churning mob at its base. Shouts and curses rose higher, fists flailed the air and maybe a few noses; heads mysteriously disappeared from view, until suddenly a man squirted out of the melee and raced up the ladder.

Let us say his intentions were all of the best—merely to rectify Captain Bass' sad error and bring the British flag on a level with that of the good old Union. But just as he clutched a corner of the Union Jack the ladder disappeared from beneath him. Under these circumstances the brave patriot had no choice but to plummet unceremoniously to earth, bearing the flag with him. And just as this pandemonium was at its height, the doors of the Opera House were flung open, and the convivial banqueters sallied forth, visitors and hosts locked in comradely embraces.

The sight that greeted the Canadian celebrants froze them in their tracks. Their horrified eyes caught glimpses of the beloved Union Jack twitching and writhing in the mud, beneath the feet of a shouting, brawling, battling mob. Suddenly it all came back to them—the abrupt bath of cold water cascading into their finest coaches, the howling crowd, the cancelled speeches—and now their country's flag trampled underfoot!

The Honorable Mr. Thompson took it all in with a glacial stare. Drawing himself up to the full majesty of his portly stature, he stalked off to the train, gazing resolutely at the clouds overhead. The helpless town officials, crushed by this latest blow to their plans, could only surmise the future fortunes of Bellingham Bay from the curt farewells of the visitors as they stepped up into the cars and slammed the doors.

OVER the following weeks the telegraph lines back across the continent chattered with grave messages from embassy to embassy. Local newspaper editors, vainly trying to hold down the lid on the hottest story they'd ever had, conveniently forgot to publicize the irksome details. But indignant letter writers warmed it up by castigating the Sons of Veterans as so many irresponsible drunks. Even ship captains got into the argument on positioning of flags, and the battle raged on in newspaper columns, council meetings, crackerbox debates, and fiery Chamber of Commerce sessions.

Eventually the government of the United States indicated, through proper channels, that an inquiry into certain excesses of the Whatcom County citizenry and the notable inaction of the police force (Lord bless him) in coping with it would be helpful in maintaining friendly relations with the government of His Majesty's neighboring dominion.

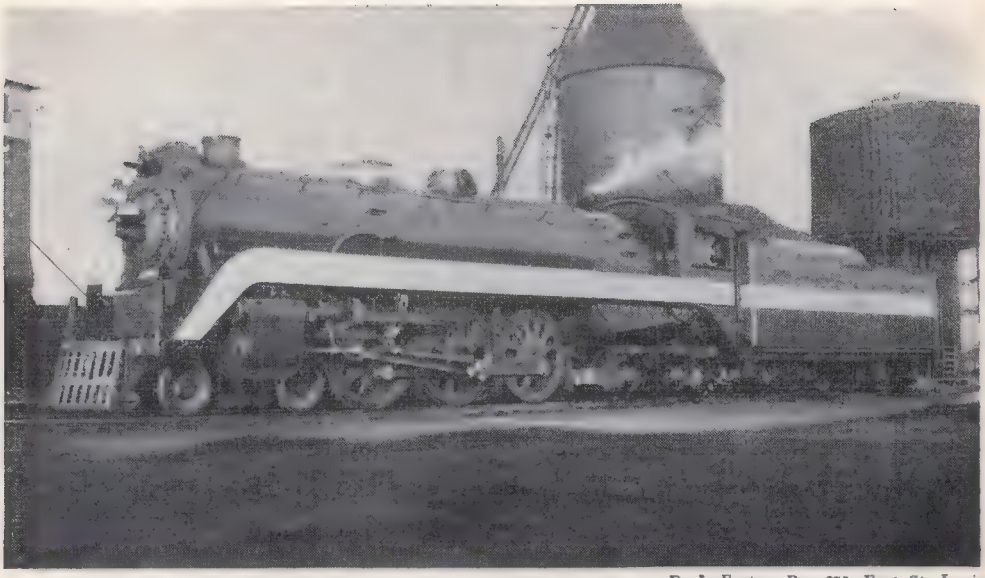
Bellingham today is a stop—an important one, to be true, but still just a stop—on the Seattle-Vancouver line of the Great Northern.

And the Canadian Pacific terminates at Vancouver.

As a matter of fact, the old timers will tell you they can't recall seeing a CPR train in Bellingham since—well, it must have been some time back in the summer of '91.

Railroad Photographs, 47 Royal Street, Allston, Mass.

READY TO PULL *Banner Blue* passenger train between Chicago and St. Louis, blue-and-gold-finished *Pacific* 673. *Opposite page:* Wabash *Hudsons* formerly were 3-cylindered *Mikados* of 2600 class



R. J. Foster, Box 575, East St. Louis

Locomotives of the

WABASH RAILROAD

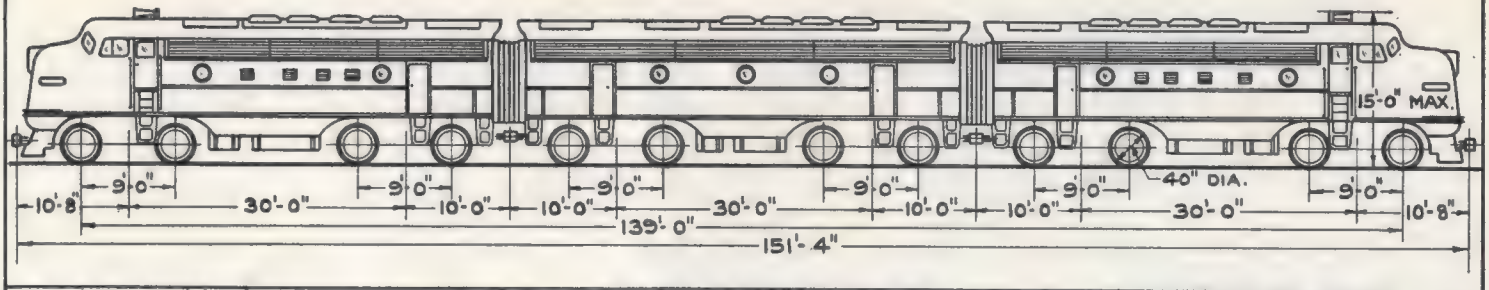
Steam

Class	Numbers	Cylinders	Drivers	Pressure	Engine Weight	Tractive Effort	Builder & Date
			0-6-0 (Switcher) Type				
B-7	525, 530, 533, 534, 555	21 x 26"	52"	185	154,040	34,073	Rhode Island, 1906
B-7	540–546, 557	21 x 26	52	185	154,040	34,673	Baldwin, 1907–12
			0-8-0 (Switcher) Type				
C-3	1525, 1526, 1530, 1531, 1534, 1536, 1539–1541, 1543, 1544	25 x 28	52	195	217,500	55,781	Alco, 1923
C-4	1546, 1548–1553, 1555, 1556, 1560, 1561, 1566, 1567, 1569	25 x 28	52	195	223,800	55,781	Lima, 1926
			2-6-0 (Mogul) Type				
F-4	569, 571, 573, 576, 587	19 x 28	64	190	123,525	25,507	Rhode Island & Richmond, 1899
F-7	859	19 x 28	64	200	148,524	26,849	Baldwin, 1903
			2-8-0 (Consolidation) Type				
I-2	2153, 2160	19½ x 28	58	215	174,500	33,547	Brooks, 1905
			2-8-2 (Mikado) Type				
K-1	2408, 2411, 2413, 2416, 2417, 2420, 2421, 2423, 2425, 2428, 2431, 2435, 2438, 2441, 2442, 2446, 2449, 2450, 2451, 2454, 2459, 2461, 2462	25½ x 30	64	210	266,840	54,408	Alco & Baldwin, 1912–13
K-2	2203, 2208, 2209, 2211, 2213, 2214, 2216, 2217	26 x 30	64	200	292,000	53,868	Alco & Baldwin, 1918
K-3	2256, 2258, 2259, 2264	27 x 32	64	210	325,000	65,063	Alco, 1923–24
K-3	2266, 2267, 2270, 2272	27 x 32	64	210	331,000	76,899	Alco, 1923–24
K-3	2273, 2279	27 x 32	64	210	341,000	76,899	Alco, 1923–24
K-4	2700, 2701, 2709, 2718	27 x 32	64	210	341,000	76,899	Alco, 1923–24

PAGE 20-10.4

LOCOMOTIVE MODEL F7

ELECTRO-MOTIVE DIESEL - CLASS D45



NO. OF LOCOMOTIVES - 9			BUILDER - ELECTRO-MOTIVE DIV.		WESTINGHOUSE 24-RL.
UNIT NO'S.	1100 TO 1108 INC. 1100-A TO 1108-A INC. 1100-B TO 1108-B INC.	1 ENGINE 1500 HP. EACH PER UNIT	RATING - 1500 HP. AT 800 RPM.	AIR BRAKE EQUIPMENT PER UNIT	AIR RESERVOIRS - 2
BUILDER - ELECTRO-MOTIVE DIV. OF GMC.			MODEL - 16-567B - 45° "V" FORM		CYL'S. 8-10" x 8" - SINGLE ACTING
YEAR BUILT	SEE PAGE 1-2		2 CYCLE - SINGLE ACTING		CLASP TYPE SHOES - 2 PER WHEEL
TRACTIVE POWER			16 CYL'S. - 8½" DIA. x 10" STROKE		COMPRESSOR: GARDNER-DENVER 3 CYL. - TYPE WXE 2 STAGE
FACTOR OF ADHESION			SOLID INJECTION - UNIT TYPE		
LOADED WEIGHT			"ROOTS" TYPE BLOWER SCAVENGING		
TRUCK JOURNAL SIZE - 6½" HYATT BEARINGS				BRAKING POWER PER UNIT	TOTAL PRESSURE - 228,000 LBS. PER CENT - 80 CYL. PRESSURE - 100 LBS.

TANK CAPACITIES IN GALLONS PER UNIT		
	FUEL OIL	1200
	LUBRICATING OIL	200
	COOLING WATER - "A" UNITS	230
	COOLING WATER - "B" UNIT	215
	STEAM GENERATOR	NONE

GENERATORS	ELECTRO-MOTIVE DIV.	
TRACTION MOTORS - ELECTRO-MOTIVE DIV.		DRAFT GEAR - NATIONAL MALLEABLE M-380
GEARS - 62 TEETH. PINION 15 TEETH.		SANDERS - GRAHAM-WHITE
GEAR RATIO - 4.13 TO 1.		STEAM GENERATOR - NONE
STORAGE BATTERY	EXIDE	

SAND BOX CAPACITY - 16 CU. FT. PER UNIT			
MAXIMUM CURVE RADIUS - 250 FT.			
MAXIMUM PERMISSIBLE SPEED - 65 MPH.			
REVISED	1950	1951	

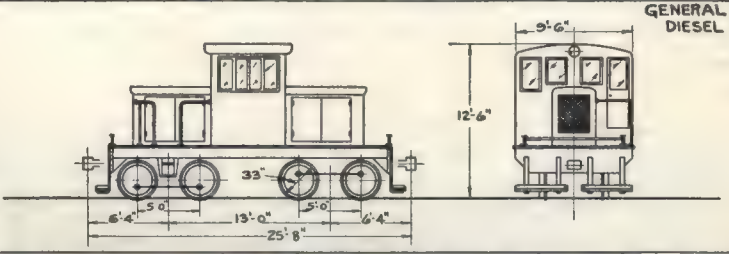
Diagrams courtesy Wabash Railroad

ON THE FLAG ROUTE there are some 167 freight-pulling engines, but only 53 are Diesels, so far. All but five of the Diesel freighters are General Motors' products, such as the three-unit Class D-45 jobs, *above*. *Right*, Switcher No. 51 is the most unusual Diesel on the Wabash, as you may note from this diagram. It has the smallest horsepower, weight, tractive effort and drivers, besides being unique in appearance

Class	Numbers	Cylinders	Drivers	Pressure	Engine Weight	Tractiv Effort	Builder & Date
K-4	7,19, 2721, 2726, 4377	27 x 32	64	210	338,580	76,899	Alco, 1923–24
K-4	22220 2733, 2735, 77802 2738, 2739, 1 32	27 x 32	64	210	346,480	76,899	Alco, 1923–24
			4-6-2 (Pacific) Type				
J-1	660, 662, 663, 667, 669, 670, 673	24 x 26	74	215	248,840	36,984	Alco & Baldwin, 1912
			4-6-4 (Hudson) Type				
P-1	700–706	26 x 28	80	220	374,680	44,244	Alco, 1925
			4-8-2 (Mountain) Type				
M-1	2800–2824	27 x 32	70	245	406,400	69,400	Baldwin, 1950
			4-8-4 (Northern) Type				
O-1	2900–2924	27 x 32	70	250	454,090 & 459,290	70,817	Baldwin, 1930–31

PAGE 20-1

GENERAL ELECTRIC DIESEL CLASS D-3



NO. OF ENGINES - 1
ENGINE NO - 51
BUILDER- GENERAL ELECTRIC CO.
YEAR BUILT - 1939
TRACTIVE POWER - 25800 LBS.
FACTOR OF ADHESION - 3.44
WEIGHT LOADED - 88,840 LBS.
TRUCK JOURNALS- ROLLER TYPE.

ENGINE
BUILDER- CUMMINS ENGINE CO.
RATING- 2 ENG'S - 150 H P - 1800 RPM.
MODEL- HBI-6. VERTICAL.
4 CYCLE - SINGLE ACTING.
6 CYL'S. - 4⅞ BORE x 6" STROKE.
SOLID INJECTION.
FUEL PUMP- DISTRIBUTOR TYPE.

GENERATORS- 2 - GENERAL ELECTRIC

TRACTION MOTORS- 2- GENERAL ELECTRIC

GEAR RATIO- 20.45 TO 1.

AIR BRAKE EQUIPMENT
WESTINGHOUSE 14-EL
AIR RESERVOIR- 1- 24½" x 72"
CYLINDERS- 1- 8"-12" SINGLE ACT.
FLANGE TYPE SHOE- 1 PER WHEEL
COMPRESSOR (2) GARDNER-DENVER 2 CYLINDER SINGLE STAGE

BRAKING POWER
TOTAL PRESSURE-
PER CENT-
CYLINDER PRESSURE-

DRAFT GEAR - NONE
SANDERS- LEACH D2 TRAPS- KING #29 VALVE

CAPACITIES IN GALLONS

	BRITISH IMPERIAL ENG. NO 1	BRITISH IMPERIAL ENG. NO 2	UNITED STATES ENG. NO. 1	UNITED STATES ENG. NO 2
FUEL OIL	60	60	72	72
LUBE OIL	6½	6½	7.8	7.8
WATER	11	10	13.2	12

MINIMUM CURVE RADIUS - 50 FT.
MAX. PERMISSIBLE SPEED - 20 M.P.H.

STORAGE BATTERIES - EXIDE

REVISED 1941 1943

Diesels

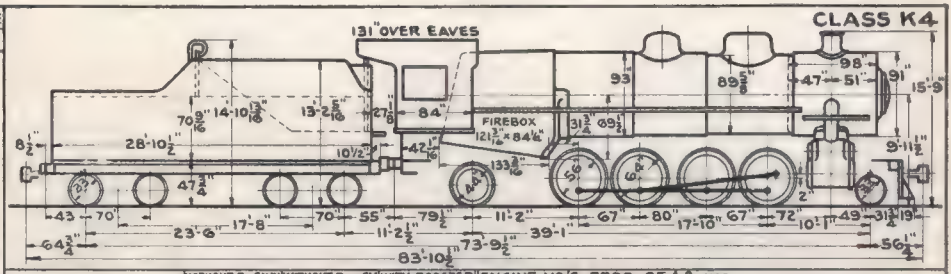
Class	Numbers	Horsepower	Drivers	Engine Weight	Tractive Effort	Builder & Date
			1A (Switcher) Type			
D-3	51	300	33"	88,840	25,800	GE, 1939
			B-B (Switcher) Type			
D-6	100, 150	600	40	197,850	60,000	Alco, 1939–40
D-6	101–111	600	40	197,090	60,000	EMD, 1939–41, 1947–49
D-6	151–159	660	40	198,000	60,000	Alco, 1941–42, 1944, 1947–48
D-6	200–202	660	40	198,550	60,000	Baldwin, 1941–47
D-8	120–127	800	40	231,620	68,500	EMD, 1950–51
D-10	300–304	1000	40	240,730	72,220	Baldwin, 1942–49
D-10	310–321	1000	40	230,500	69,150	Alco, 1942–49
D-10	350–352	1000	40	246,030	73,500	EMD, 1946–49
D-10	380–383	1000	40	242,600	72,270	F-M, 1946–49
D-12	305,306	1200	40	236,670	69,900	B-L-H, 1951
D-12	355–366	1200	40	246,580	72,990	EMD, 1950–51
D-12	400–411	1200	40	247,190	73,140	Lima-Hamilton, 1950
			B-B (Freight) Type			
D-15	450–463	1500	40	242,880	71,210	EMD, 1950–51
			(B-B) + (B-B) (Freight) Type			
D-30	1140–1154, 1165–1176	3000	40	457,620	134,420	EMD, 1950–51
D-30	1155–1164	3000	40	458,010	134,530	GM, 1950–51
			(B-B) + (B-B) + (B-B) (Freight) Type			
D-45	1100–1108	4500	40	694,370	203,730	EMD, 1949–50
D-45	1200–1204	4500	40	695,330	202,350	Alco, 1949
			A1A-A1A (Passenger) Type			
D-22	1000, 1003–1013	2250	36	317,740	60,370	EMD, 1949–51
			(A1A-A1A) + (A1A-A1A) (Passenger) Type			
D-40	1001, 1002	4000	36	625,420	124,360	EMD, 1946–49
D-40	1020, 1021	4000	36	620,620	119,940	Alco, 1949

Walter Peters, 301 W. Washington St., Springfield, Ill.

FREIGHT STEAMERS are the road's backbone, *e.g., Mountain* 2822 . . .

PAGE 47

FEEDWATER HEATERS- ENG'S. 2720-2727 INC., & 2729 TYPE 4-8-2. ENG. 2728 TYPE 4-8-4



WEIGHT IN POUNDS	WITHOUT B. F.W.H. OR SYPHONS	WITHOUT B. OR SY. WITH F.W.H.	WITH BOOSTER AND SYPHONS
ENGINE TRUCK	30810	31610	29490
1ST. DRIVER	59900	61400	59050
2ND DRIVER	66500	65840	63880
3RD DRIVER	62510	63270	68500
4TH DRIVER	59540	61360	66230
ON DRIVERS	248450	251870	257660
TRAILER TRUCK	54470	55100	59330
ON DRIVERS AND TR. TR.			316990
TOTAL OF ENGINE	333730	338580	346480
TENDER LIGHT	75500	75500	75500
TENDER LOADED	194500	194500	194500
ENGINE AND TENDER	528230	533080	540980
JOURNAL SIZES	ENG TR. 6½×12	MAIN 12 × 13	TENDER 6×11
	TR TR. 9 × 14	OTHERS 10×13	
COAL CAPACITY OF TENDER			18 TONS
WATER CAPACITY OF TENDER			10000 GALS.

REVISED 1940 1943 1947 1948

ENGINE NO'S. 2700-2742 INC.
ENG'S. 2700-2719 HAVE NICHOLSON THERMIC SYPHONS.

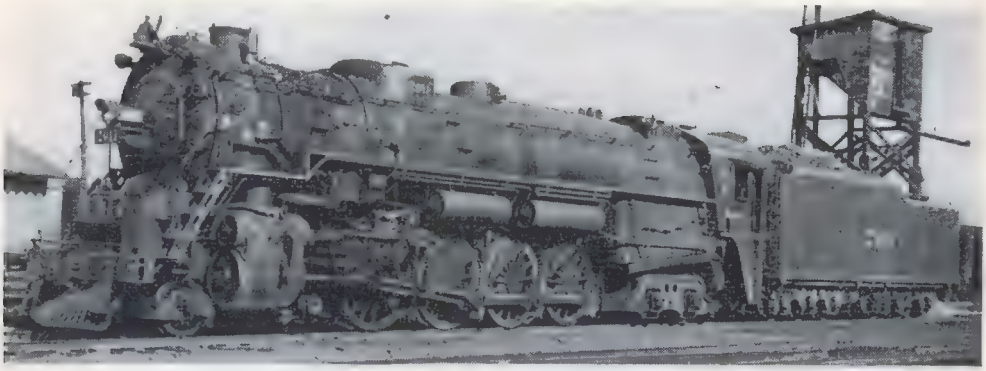
NO. OF ENGINES	43	YR. BUILT-	1925
BOILER PRESSURE	210	BUILDER-	AMERICAN
TRACTIVE POWER	65063	FACTOR ADHESION-	3.81, 3.67, 3.96
TR PR. WITH BOOSTER	76899	VALVE TRAVEL	7"
CYLINDERS	27×32	GRATE AREA SQ. FT.	70.9
VALVE GEAR-	WALSCHAERT	VALVES-	12" & 14"-PISTON
STOKER-	DUPLEX-DI	SUPERHEATER-	SCHMIDT

FEEDWATER HEATER-WORTHINGTON- FOR TYPE SEE NOTE.
BOOSTER-FRANKLIN CI. ENG'S 2700-2719-TR. PR.-11836

HEATING SURFACE SQ. FT.	WITHOUT SYPHONS	WITH SYPHONS	NO.	O. DIA.	L'GTH.
FIREBOX	309	388			
ARCH TUBES	32	16	224	3½	
FLUES	1224	1224	45	5½	19'-0"
TUBES	2660	2660	239	2¼	19'-0"
TOTAL	4225	4288			
SUPERHEATING	1051	1051			
TOTAL EQUIV.	5801	5864			

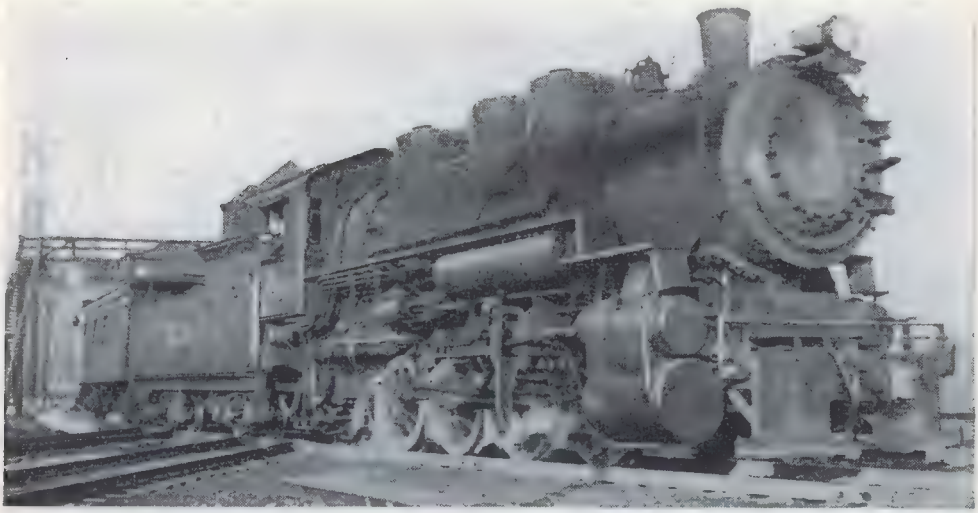
MANY *MIKADOS* include 15 Class K-4s manufactured by Alco in 1925 . . .

MOGUL 859, the only remaining Class F-7 steamer, Baldwin-built in 1903 . . .



R. J. Foster

AND NORTHERN 2911, which handles both fast and heavy freight drags

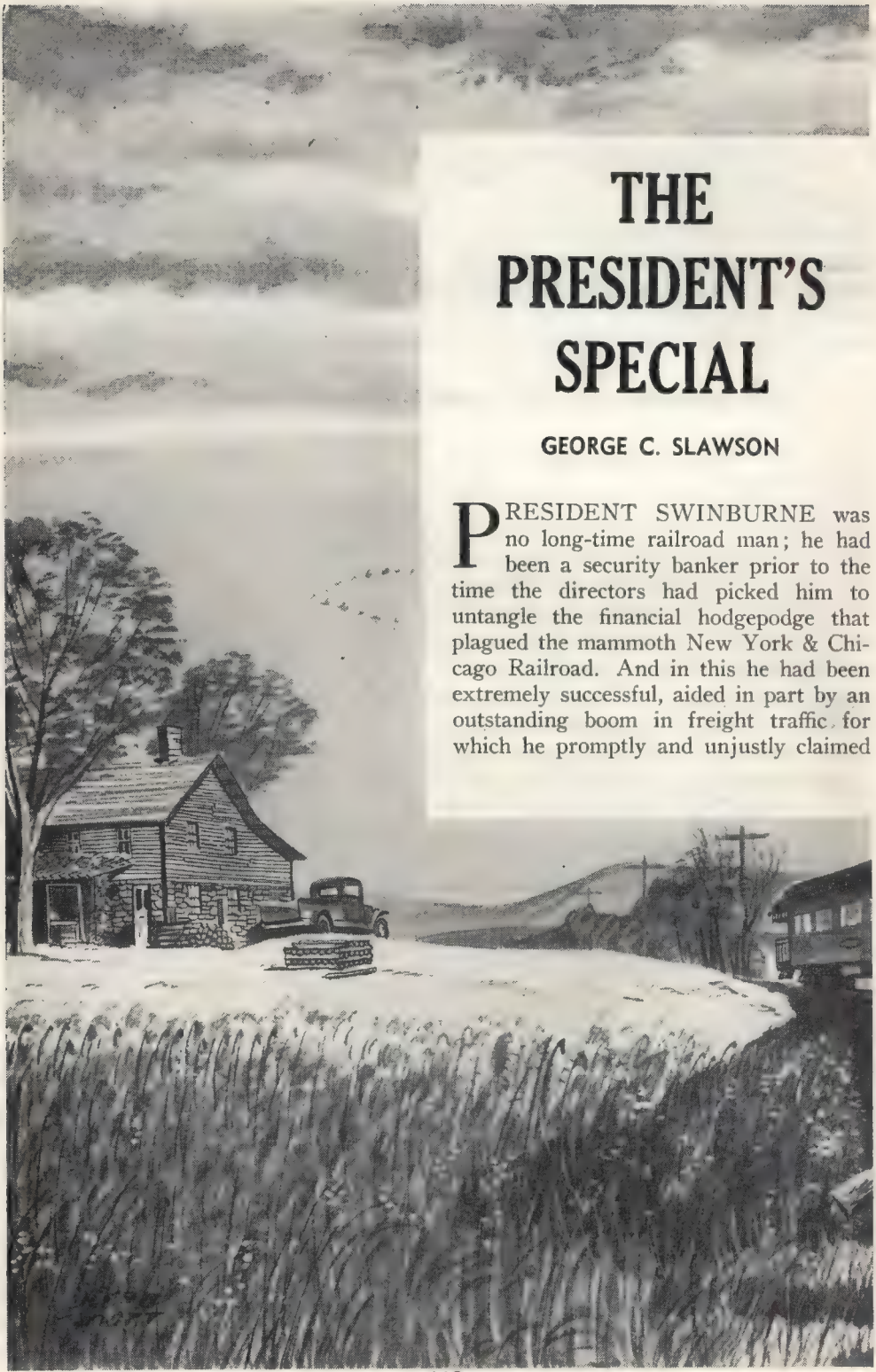


Vernon Seaver, 3121 Broadway, Chicago

IN SWITCHING SERVICE are twenty-five 0-8-0s, No. 1556 for one . . .

John F. Boose, 35 N. LaGrange Rd., LaGrange, Ill.

AND THIRTEEN 0-6-0s, including ancient No. 533



THE PRESIDENT'S SPECIAL

GEORGE C. SLAWSON

PRESIDENT SWINBURNE was no long-time railroad man; he had been a security banker prior to the time the directors had picked him to untangle the financial hodgepodge that plagued the mammoth New York & Chicago Railroad. And in this he had been extremely successful, aided in part by an outstanding boom in freight traffic for which he promptly and unjustly claimed

157

credit. His reputation as a railroad president had become outstanding, although his actual knowledge of operations was little more than that of the average passenger on one of the NY&C trains. Because of this ignorance, combined with his attitude toward the men, the operating personnel wished he would stay in New York and manipulate the finances rather than travel back and forth in his private car.

Everybody on the Mountain Division, from Superintendent Jack Burns down to the lowest foreman, anticipated trouble as soon as 'the Swine', as he was called, purchased the land of the long since burned down Summit House, a mile above Summitville, and completed a rambling palace he called a 'lodge'. The expected difficulty started when the Swine decided to have an inaugural housewarming by transferring a group of bigwigs in his private car to Summitville, the northern terminus of an unimportant 32-mile freight branch which left the main line at the insignificant town of Martinsburg.

Jack Burns grunted when he saw the telegram informing him of the proposed junket and promptly read the wire over the telephone to Charlie Boyer, divisional superintendent of motive power. "What can you supply to take the Swine to Summitville?" he demanded.

Charlie's answer was prompt. "Nothing now on this division. Both of our branches handle freight only and we have no light passenger stuff. Wait 'til I look at this manual the engineers and maintenance-of-way boys put out. Hold on."

Jack waited, but without too much optimism. He knew perfectly well that the age old formula was disputed. No longer did the heavy haulers of yesterday become the local passenger and way freight power of today and the branch line antiques of tomorrow. The rails, trestles and bridges of many of the branch lines, long neglected for the more financially lucrative main line, would not take the strain of even the smaller *Pacifics* and *Mikados*. His musings were interrupted by Charlie's voice again on the wire.

"Here it is: 'Summitville Branch—locomotives of classes D, E and K classes only are approved.' "

Jack snorted impatiently. "Never mind the alphabet, Charlie. What are they?"

"Class K are the little freight *Moguls* we are using now, the 400 class. And—" a pause while he rattled pages—"Class D are the old Dickson passenger *Moguls* of the 100s. Class E are the 900s. They are Brooks *Ten-Wheelers.*"

"What a mess of junk!" protested Burns. "Why, Charlie, the Dickson plant quit operation when I was just a kid. Those 100s must have been built fifty years ago! How about one of the 1500 group?"

"Too heavy for the rails. And don't worry about the Dicksons. There were only three of them on the whole roster when this list was put out eight months ago. I doubt if there are any left now. We had the 157 as a spare on the Southfield branch and brought her in here only last week to be scrapped."

"How about one of the 900s?"

"There were fourteen of those left when the manual came out. None of them are on our division. I think they're used on some of the western branches where they still run coach service."

"Dig one out, Charlie. This is Tuesday and we need it for Saturday morning. And for heavens sake, don't let me down. I've had enough trouble with the Swine as it is."

"Do the best I can, Jack—let you know in a little while."

Burns hung up and glared at an inoffensive calendar on the wall. He had had difficulty with the Swine before. No superintendent liked to be reprimanded because the president slopped his Scotch-and-soda on his shirt front when snapped around a curve. Such complaints were passed along and lesser employes caught the message second-hand but no less emphatic. And since the Mountain Division had more than its share of curves, Jack Burns had heard from the Swine too often.

An hour later Charlie Boyer called back. "It's all lined up, Jack. We're get-

ting the 913 off the Decatur branch on the Illinois Division, but what they will use for a spare I don't know—or care. She's probably the worst of the group, but we'll be—"

"Wait a second, Charlie. Why do you think it's the worst one?"

"Why? Huh! Why not? If somebody bludgeoned an engine from me you don't think I'd give him the best one, do you? Anyhow, they swear she's in good operating condition. She'll be turned over to the west end of the division late Thursday night and she can go to Martinsburg on Friday. If there is anything wrong with her it can't be too major a job and we'll have almost a hundred miles to find out about it—and time to tinker with her, too. You're all set for Saturday as soon as Marty Walsh lines up the crew."

"Thanks, Charlie. Nice going on your part, and the best we can do. Now maybe I can get some other work done instead of worrying about this run."

Confident that Charlie would handle the situation, he forgot it and turned to the mass of details awaiting his attention. Then, on Friday afternoon he was notified that the 913 was in the little four-stall roundhouse at Martinsburg and that her crew reported her in good working order.

Burns gave a nod of satisfaction at the report. "Don't let her fire die or forget to keep water in her until after tomorrow's run," he chided the chief dispatcher who brought him the news. The chief grinned as he left the office.

But an hour and a half after midnight Jack Burns bumped head on into trouble. The night chief's voice on the telephone snapped him into complete wakefulness by announcing, "The Summitville branch is tied up."

"What!"

"That 913 is a creeper. She backed her tank into the pit and knocked the table into a knot."

Burns' comments were strong enough to startle his wife of a quarter century. "How did it happen?" he demanded when he became coherent.

"The 913 was in Number One stall. When the 434 came off her run she was put in number two stall and the table left lined that way. The spare 400 class was in the last stall. About one o'clock the watchman climbed into the cab of the spare and started his lunch. He heard the 913 wheeze and dove out of the cab, but he had to go around the 434 and was too late to catch the 913. By the time he stopped her the tank had hit the side of the table and bashed it in. The others are locked in tight. I've called the hook, but if the table is as bad as the agent reports it will be a long job."

"Didn't those fools put chains under the 913 when they left her?"

"Apparently not."

Again Burns swore. "I'll be right down. Call Jim Evans, Charlie Boyer and Milt Burke and get them down, too. Also Bob Ward. And pull that engine crew out of service along with that watchman and have them in my office Monday morning."

A HALF HOUR later a gloomy foursome listened to the story in slightly greater detail. Only Jim Evans, the trainmaster, was missing from the group and, although located, was away from home and would not arrive for an hour or more. Burns looked at Milt Burke, master mechanic of the division, but Milt merely drummed his fingers on a corner of the desk and said nothing.

Burns turned to Ward, divisional engineer of bridges and structures. "Bob you've got to let one of the light *Pacifics* run that branch with the Swine's car."

Ward shook his head firmly. "Hell, no, Jack. Not on that track or over Cook's Valley trestle. Those 900s cut the margin of safety as far as I dare approve."

Burns made a guttural sound that could signify almost anything and stated, "Well, I guess the Swine rides behind a 400. Which one can we get in quickest? That special car is coming out on Number 15 and will reach Martinsburg a little after eight o'clock."

Charlie Boyer undertook to answer. "We can't get a 400 in by that time. The nearest one is out at the other end of the

Southfield branch and it would take four hours to get her crew on the job and bring her in to the main. And she would still have sixty miles to go to reach Martinsburg. Can't be done."

"Can't she travel sixty miles in two hours?"

"With her small drivers she could just about do it if you give her the railroad. But you will lay out three or four name trains to do it. Otherwise she will spend a lot of time in sidings. And anyway, there's no crew. Her regular crew would be caught by the hog law before they reached the main."

Silence enveloped the gathering. Burns again glared at the calendar on the wall and apparently it seemed to jog his memory. He spoke so suddenly the others were startled.

"Charlie, what did you say a few days ago about that Dickson engine?"

Boyer displayed quick interest. "The 157. We brought her in about ten days ago." His interest turned into dejection. "She's in terrible shape and scheduled to be scrapped. In fact, she's been officially retired from the roster."

"I don't care whether she is on or off the roster. Will she run?"

Milt Burke took up the conversation. "Came in under her own steam, but with a wet fire. Her tubes leak and her boiler is forty-nine years old. The inspectors won't stand for another retubing. Also, she needs repacking, her grates don't dump right and a few other things. She's scheduled for cutting up this coming week."

"Never mind all that. How soon can you fix her so she will roll?"

Milt did some rapid calculating. "Give me four hours. The boys will be starting on her inside of five minutes." He headed for the door.

"Make it three hours!" Jack Burns was emphatic.

Milt paused in flight. "I'll try, but she'll be a brute to handle. You'd better have a smart man to run her. And she'll have a green fire and damn little steam." Milt disappeared hastily.

Charlie Boyer blinked at the rapid turn of events. "Dave Cowan ran that engine for years on the Summitville branch before the old Summit House burned down. He probably knows her better than any other man alive."

"Get him."

"Dave has top seniority on the division and has bid in the day shifting job right here so he can spend most of his time at home. I doubt if he'll go."

"This is an emergency. We'll have to fix it up somehow."

Charlie frowned for a moment, then looked hopeful. "Jim Evans will be coming in on Number 98. I'll meet him if you want me to and send him right over to Dave's. Those two are pretty close friends and Dave may do it for Jim."

"It's certainly worth trying, Charlie," agreed the superintendent. "And tell Jim I figure I'd better ride this one. He won't have to go."

As Charlie left the office Bob Ward yawned. "Guess you don't need me any more. Looks like things are working out all right. I'm going back to bed."

Jack Burns made no comment but regarded the calendar in contemplative silence.

An hour later the phone jangled. It was Milt Burke. "The 157 will be ready to run a little before 5:30, but she will have three tubes plugged."

"Thanks, Milt. Good work."

Again the phone rang and Burns was startled to notice it was nearly four o'clock. Charlie Boyer was exultant. "Jim Evans is over at Dave Cowan's now. Dave will take the run."

Burns nodded solemnly before he hung up, but what that gesture conveyed over the phone was problematical. He arose stiffly to his feet and walked into the dispatchers' office. The night chief looked up at his entrance.

"Nothing new. The wrecker boss confirmed the agent on its being a long job. Probably noon or later before its straightened out."

"All right. Annul today's freight on the branch. Is Number 3 on time?"

The chief nodded. "Just talked to the River Division. Everything is smooth over there. Looks like 3 should be here at 5:40 on the minute."

Burns grunted. "Issue orders for Engine 157 to run light from here to Martinsburg, either extra or as the second section of 3. And don't let anything get between them."

"Engine 157, running light! Well, I'll be—Yes, sir."

"I'm checking out." Burns gave a sigh.

"OK, sir. Going to ride that special today?"

Jack Burns stared at the night chief with a lopsided grin. "I'll be there; but on the engine, not the private car—I hope."

A smothered chuckle from a dispatcher's desk caused the chief to snap around, but the superintendent's receding footsteps did not falter.

At 5:41 No. 3 braked to a gentle stop. Her powerful 4-6-4 eased away to the yard and a mighty 4-8-4, with the strength to snatch the train smoothly over the grades of the Mountain Division, coupled on without a jolt. The air was tested and a moment later 3 resumed her westward flight.

Dave Cowan, sitting at the throttle of the 157 where he had so often sat before, watched No. 3 leave and transferred his attention to the glowing red eye of a signal while giving last minute recommendations to Walt Moore, his fireman.

"Coal the front corners heavy and leave a white spot right in front of the door. This old girl always had a habit of trying to suck her fire out through the stack."

The fireman tossed in a scoopful of coal and mumbled something Dave did not catch.

"What did you say?"

Walt repeated. "No stoker," he grumbled.

Jack Burns was sitting across from the engineer; he grinned but no one saw him. Dave, his eyes still watching signals, suddenly moved one hand and then the other. They were started and in a few minutes the old 157 was rocking along at a faster pace than she had moved for a long time. Jack watched Dave's sure handling for a while without comment and then began a closer inspection of this antique which was no longer even on the roster. Running without the drag of cars, Walt was not having much trouble in keeping the needle close to the 150 mark in spite of the plugged tubes. In fact, his worry seemed to be to hold the front end of his fire on the grates. Burns rehashed in his mind the events connected with this special run and furtively he crossed his fingers.

BUT THERE was no trouble. The old locomotive ran smoothly under Dave's practiced touch and they eased into Martinsburg at 6:47. Dave cleared the main and spotted the 157 under the spout for a needed drink. The superintendent entered the station and returned a few minutes later, a telegram in his hand, to find Dave finishing up on his oiling around.

"Any trouble?" he asked.

"No-o-o," answered Dave dubiously, "But that left front driver spring is sagging some. May have a broken leaf or two in it, though it's hard to see for sure. How is 15?"

"On time. And say, Jim Evans has a pretty clever plan. He suggests it might be worth while to sort of spread around the boxcars in the yard so the Swine won't see the table or the hook. Let's try it."

Dave considered the idea for a moment before asking, "And who is doing this spreading?"

"We are."

"Are you a couple of brakemen and a conductor?"

Burns chuckled. "I don't know where the crew is. We'll borrow men from the wrecker. It won't take over half an hour or so."

"You're the boss," agreed Dave. "How about that express car?" He motioned to a car parked on a siding near the station.

Burns shook his head. "That car carries the express and occasional lcl stuff for distribution along the branch. I don't

think we'll need it for camouflage, and if you mix it with boxcars it might attract the Swine's attention."

Dave acquiesced with a shrug. "Get your crew and let's move boxcars. We haven't too much time."

When the screening operation was completed, Dave spotted the 157 near the station. Conductor Sykes and two brakemen, all in freshly pressed uniforms, came trooping out.

The superintendent regarded them sourly, and looked at his watch. "Aren't you fellows a litle late checking in?"

One of the brakemen answered. "Naw. We were on time."

The other brakeman volunteered an explanation. "We saw that idea to move boxcars before you did, but you wouldn't expect us to do yardwork when we are all dolled up for the *President's Special,* would you?"

Conductor Sykes waved his men to silence and gave his official version. "I know it sounds odd, Mr. Burns, but we all had to go to the men's room just when you came to pick up that wire." Hastily, he changed the topic. "You riding with us, sir?"

"Yes."

"On a one-car train?"

"Yes."

"And we leave the car at Summitville?"

"Yes."

Conductor Sykes scratched his head. "How do we get back?"

"Ride the engine, I guess."

"Now, just a minute. There's three on there now. Do you expect to take three more in that dinky cab? 'Cause we don't favor riding on the coal in our best uniforms. My old woman would give me hell when I got home if I did that."

Walt Moore came chiming in. "With me swinging a scoop there ain't going to be no six men in this cab; and that's for sure. Not if you want me to make steam."

The superintendent was receiving another taste of the difficulties that had beset this run of the *President's Special* over a 32 mile branch line. He frowned with disgust.

Conductor Sykes was helpful. "Why not haul the express car up and back? It won't be used today because the regular train has been annulled. Then we would have a place to ride back—and up, too, for that matter. If all of us are in the Swine's car the whole trip it will look pretty silly."

Burns glanced at Dave. "You know the condition of this locomotive better than I. Will she take two steel cars up the grade with those plugged tubes?"

Dave figured a moment. "What's loaded in the car?"

"Except for four cases of canned goods it's empty," Sykes assured him.

Dave nodded. "Can do."

The superintendent accepted the inevitable. "All right. Let's pick it up now."

The crew, in spite of their clean uniforms, started to swing into action, but Dave stopped them with a question. "Hey, Sykes, who put the four cases in that car?"

Sykes looked guilty. "Why—er—we did. They're consigned to the branch."

"Humph!" sneered Dave. "Three seats and one rummy table. You guys are all alike. All right, let's get going."

Number 15 paused at Martinsburg. The president's private car was uncoupled hastily and left standing on the main line, while 15 went tearing off to make up the time lost by its unscheduled stop. The 157, pushing the baggage car, backed out on the main line and coupled on. Conductor Sykes waved a highball and the train rolled back on the branch and slowly built up speed.

THE EXTRA car made Walt bend his back more often, but the 157, even with her plugged tubes and the Johnson bar away forward, held her pressure better than Jack had anticipated. Maybe things would work out all right after all.

But suddenly a new note joined the chorus of sounds. Burns and Walt looked forward from the fireman's side.

"Stop her, Dave," commanded Burns.

Dave nodded, cut off his throttle and

worked his air carefully to bring his train to a stop without roughing up the Swine, who was probably in the middle of breakfast. They all piled out to take a look. Nor was the trouble difficult to find. The spring that Dave had questioned had given out completely on the rough roadbed of the branch. With the weight distributed over the remaining springs a further sag had developed and the flange of the driver had cut through the thin sheet covering and the asbestos and was now starting to dig a groove in the boiler itself. Conductor Sykes appeared and joined the gathering.

Burns expressed his opinion. "This engine will never run the last eight miles like this. She'll blow up before we go three. What a place for a failure, with no hope of a relief engine!"

Dave poked at the point of trouble with an inquisitive forefinger before he nodded and peered around the scenery adjoining the right-of-way. He did not seem disturbed. "Walt," he ordered, "See that pile of logs over by that nearest house? Go bring a couple of pieces about like this. And do it quick." He made descriptive motions with his hands.

As Walt took off for the farmhouse, Dave turned to the superintendent with a grin. "Mr. Burns, you may know all about the heavy mainline power, but I doubt if you've had much experience with these Dicksons. I've seen this same thing happen 'way back when I was firing for your uncle before you were born. He fixed it then and I guess I can now."

Jack shook his head, but was willing to be convinced.

Walt returned with two lengths of wood. Dave looked them over critically and nodded approval. He braced the end of one of them against a tie, with its upper end against the bottom rim of the valve housing.

"Hold her like this, Walt," he explained, "and as I ease the engine forward this wood will jack her up. Then slip the other piece in so it's against both spring hangers."

"Will it work?" asked Burns.

"Has before. Don't know why it shouldn't again."

With the possibility of physical labor imminent, Sykes discreetly disappeared.

Dave climbed into his cab and cracked the throttle. As the 157 inched ahead, the cordwood came in contact with the valve housing, caught, and slowly rose toward a vertical position, raising the cylinder and boiler with it. Jack yelled and Dave set his air. Together Walt and Burns worried in the second piece of cordwood where the spring had given way. Adjusting it as best they could, they signaled to Dave who backed the 157 off the impromptu jack.

Dave climbed down and looked it over. He offered his judgment. "She'll hold. We may ride a little solid and I won't try for much speed, but she'll hold."

Conductor Sykes returned from his trip back to the special car. "The Swine wants to know what caused the delay . What do I tell him? I've been stalling him along."

The superintendent shrugged. "Tell him we—oh, never mind. I'll tell him myself. Let's get moving."

Burns mounted the baggage car as the train again started toward Summitville. Conductor Sykes led the way into the private car and escorted him to the head of the New York & Chicago Railroad.

President Swinburne was officiating at the breakfast table. "Why did we stop for nearly a quarter of an hour?" he demanded.

Burns answered more or less truthfully. "There was some cordwood on the track."

"Cordwood?"

"Yes, sir. We didn't want to take any chances of an accident, especially to your train, sir."

The Swine announced pedantically, "Every now and then some minor trouble crops up in train movements."

Burns' mind flashed back over the events of the past few days in connection with this run and he was forced to swallow hard before he answered.

"Yes, sir. Every now and then we have some minor difficulty with some particular train."

FIDDLETOWN & COPPERDOPOLIS RY.

No. 44 F & C's Remarkable New Water-Scoop *by Carl Fallberg*
is Given Successful Tryout at Crooked Creek

On the Spot

Our Readers Talk It Over With the Editorial Crew

HAWK-EYED Henry Dempsey of Cranford, N. J., was looking out the window of a Jersey Central train when, in a parking lot at Elizabeth, he spotted the automobile which had been stolen from him a week before. Upon reaching his destination, New York City, he phoned Elizabeth police. The cops then moved his car to a garage, where he claimed it later.

* * *

A CLAIM 30 years old was paid recently by the Illinois Central. S. A. Maples was shipping a carload of cattle from Murfreesboro, Tenn., to St. Louis over the IC. While in transit the livestock was unloaded twice for feeding, although instructions called for only one feeding. Maples filed a claim of $7.50, the cost of the second feeding, but mislaid his papers before the claim could be settled. Thirty years later he wrote that he had found the missing papers and could use the $7.50. Payment was made through J. J. Jacobs, a 50-year veteran freight-claim man who had handled the case originally.

* * *

WHISKERS, a Welsh terrier belonging to George Gooding, Roxbury, Mass., enjoyed the New Haven Railroad's hospitality. It all happened because Gooding, leaving town on a trip, left Whiskers with a nephew. The terrier tried to follow. He turned up at Boston's Back Bay station, a mile and a half from home, and boarded *The Senator* as it was pulling out for Washington.

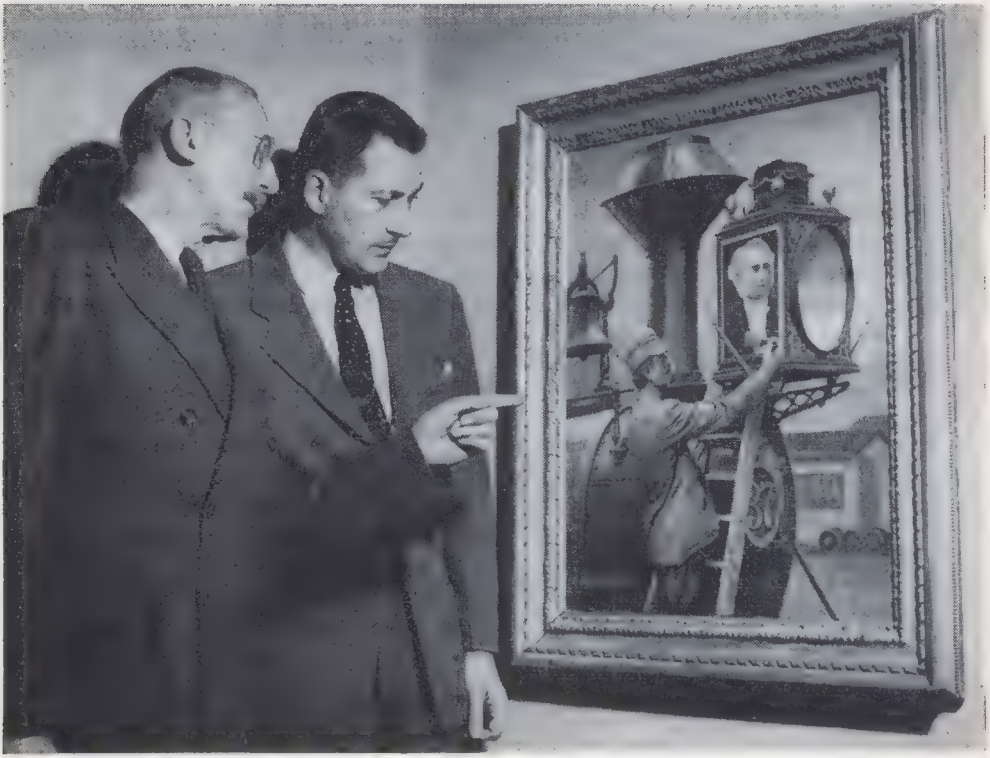
But Whiskers didn't go to the nation's capital. The conductor found him in a parlor car and relegated him to the Providence, R. I., dog pound. Then the New Haven publicized the incident in Massachusetts and Rhode Island newspapers. Gooding read the story. Whiskers went home in the *Bay State Express* baggage car.

* * *

IN AN EXPERIMENT to bring the railroad industry's high-flying dining-car deficits down to earth, the Chesapeake & Ohio is now serving an airplane-style tray meal of pre-cooked frozen food on some of its runs. Passenger reaction to this substitute for traditional dining-car service is said to be good. Prices of complete meals are about 40 percent less than those served in the old manner.

The need for such experiments is shown by a year's loss of $26,830,000 in the nation's dining-car service. During that year it cost the C&O, for example, $1.52 for every dollar its patrons paid in the diners. The Rock Island, following the Pennsy's lead, has installed mechanical food and beverage dispensers in its fleet of *Rocket* trains. These *automats* offer the passenger a choice of four kinds of sandwiches at 25 cents each.

The Rock Island also has introduced coffee and doughnut service on its streamlined, non-stop, suburban train, the



Alco, for Railroad Magazine

RAILROAD ARTIST. A. Sheldon Pennoyer's April '41 *Railroad Magazine* cover of the *Commodore Vanderbilt* was one of the works of art at the December exhibit, *A Salute to Railroading,* in the New York galleries of Kennedy & Company. The most complete art story ever assembled on the industry's development included paintings by Pennoyer, *left,* and Alco artist Howard Fogg

Banker's Special, which runs between Joliet and Chicago daily, Monday through Friday. It is the first time in suburban railroading for such a service. In a move to popularize the new idea, coffee was dispensed free to all passengers the first week. Some 800 passengers ride the train each way every day. Each cup of coffee is brewed individually by the machine as ordered. As a coin is inserted, a paper cup falls into place and the coffee quickly follows. Turn of a button indicates preference for cream, sugar, or both. This service is not believed to be suitable for short runs.

* * *

INDIAN railways have several gages and all trains seem to be crowded far beyond what would be allowed in the U. S. or Canada, reports Dr. Frank A. Woodward, 2300 West 10th Street, Los Angeles 6, Calif., who has just returned from a world tour.

"People hang on the sides of passenger trains," he writes, "besides riding the tops. This was the case on freight trains in Mexico during the war, when soldiers took their families with them and dried their clothes on the trucks. India has first, second and third class accommodations. The less you pay, the less you get. Engines are of the 'pip squeak' variety; some still have oldtime brass such as American locomotives used to have."

* * *

THREE new methods of feeding the traveling public will soon be used by British Railways, reports Knotty Isaac Kirkham, 206 Furlong Road, Tunstall, Stoke-on-Trent, England:

(1) A knapsack dispenser for stations without lunch rooms. This is an employee with a "thermal container" strapped to his back, serving tea, coffee or other hot drinks.

(2) Road unit refreshment trailers will operate from certain centers to industrial fairs, farm shows, race meetings, etc.

(3) Ice cream freezers will be added to all refreshment buffets.

Knotty says he helped to build the *Britannia* class engine. "I worked on the *Britannia* herself and on No. 70004, which was displayed at the Festival of Britain from the time their frames were laid down in Shop 10 at Crewe Works until completion."

* * *

TWO of the Czech crew members who escaped from their Communist country aboard a "freedom train" and found refuge in America are now working for Lionel, the toy train king. Of the 31 persons aboard the freedom train who chose to stay in Western Germany after the dash across the Czech border, 11 went to Canada as immigrants.

A *New York Times* editorial, headed *Casey Jones Rides Again,* commented: "History has given us many great and small instances of flights from tyranny but it would be hard to find anything with such a blend of daring, impudence and incongruity as taking a train to freedom. A train itself is such a captive—to its tracks, its brakes, its switches, its rigid turntables—and yet here was a man getting on his 'iron horse' and making a successful dash for liberty!

"Some day, somewhere, there must be a statue to Czech Engineer Konvalinka, who came chugging out of Prague into Western Germany. If nobody else builds and contributes to one, our own Brotherhood of Locomotive Engineers ought to

oh-oh, Dry Scalp!

"HE'S GOT LADDIE BOY in check all right, but not Dry Scalp. My, what unkempt hair! Looks like a mane . . . and I'll bet it's as hard to comb. Loose dandruff, too. He needs 'Vaseline' Hair Tonic!"

Hair looks better... scalp feels better... when you check Dry Scalp

IT'S GREAT! Try it! See what a big difference 'Vaseline' Hair Tonic makes in the good looks of your hair. Just a few drops daily check loose dandruff and those other annoying signs of Dry Scalp . . . spruce up your hair quickly and effectively. Contains no alcohol or other drying ingredients.

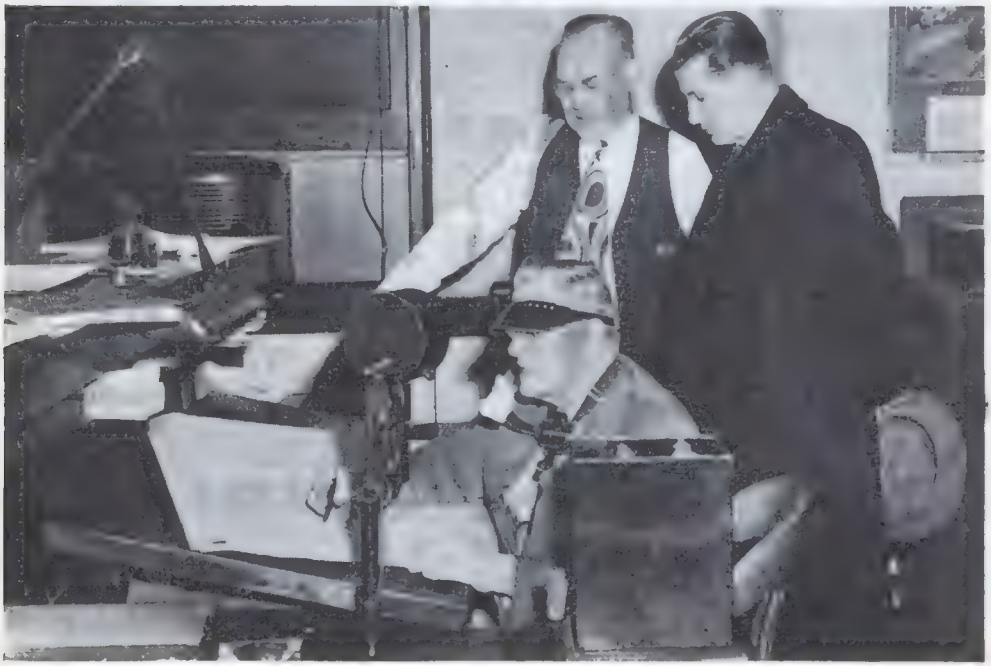
Vaseline HAIR TONIC
TRADE MARK ®

Listen to **DR. CHRISTIAN,** starring **JEAN HERSHOLT,** on CBS Wednesday nights.

VASELINE is the registered trade mark of the Chesebrough Mfg. Co., Cons'd

Pennsylvania Railroad

BRAVE MEN. Czech engineer Yaroslav Konvalinka, *above*, who piloted his Freedom Train out of the Iron Curtain, and the dispatcher, Karel Truksa, below, who plotted the memorable escape into the American Zone of Germany, were recent guests of the Pennsy on a run between New York and Philadelphia after inspecting the Penn Station Movement Bureau. Konvalinka now works for Lionel



do so. Here was one of their own, in a far country, who used the only tools that he had—just a locomotive and four cars —and with the help of who knows how many sympathetic fellow railroaders, made his way to freedom, the sort of freedom that our engineers take as a matter of course.

"Surely, the first tribute should come from the railway unions of the democratic West. His epic will go down in history with the ballad of our own legendary Casey Jones wherever men tell 'the story of a brave engineer.' "

* * *

AT LEAST three women work as train dispatchers on American railroads: Mrs. C. D. Pangborn (recently Miss Phyllis Vohland), New York Central, who was featured in our January issue ("Distaff Dispatcher," by Peter Josserand); Dora A. Whitaker, Durham & Southern, mentioned in a footnote to that same article, and Juanita Hansen, Southern Pacific, pictured in last month's *Along the Iron Pike.*

Miss Whitaker describes herself: "I'm redheaded, freckle-faced and weigh around 200 pounds." In 1931 she became a part-time dispatcher on the D&S, with its 59 miles of track in North Carolina. She started work with that road in the auditing department in 1918. Since her dispatching is done by phone—in a pleasantly feminine voice—Dora has little opportunity to see the men she gives orders to. One of the nicest compliments she recalls was this from a trainman: "Miss Whitaker, we don't mind taking orders from you, even though you are a woman."

Woman's part in railroading is summed up thus by F. H. Baird, assistant vice-president, New York Central: "I cannot understand how any carrier can do today's job without the experience, judgment and wisdom of trained women. On our road, half the patrons are women and children, and the rest are often influenced travelwise by women."

A strong influence on the nation's railroading is exerted by the National Association of Railroad Women, whose 52 members hold executive or supervisory positions with rail carriers.

* * *

THE NEW train indicator boards in C&NW passenger station at Chicago are a big improvement over the old, dingy, hard-to-read boards, according to James A. Neubauer, 3320 North Sacramento Avenue, Chicago 18. "For those who've never been in that depot," he writes, "I must advise that the *Twin Cities 400* has never left from Track 16, despite the photo shown in January *Railroad,* page 126. This track is one of the shortest into the depot. The train mentioned usually leaves from Track 6, on which the platform is about 2½ blocks long, extending north almost to Lake Street."

* * *

IT'S FIRST IN, first out, for engineers and firemen in Korea, according to Pfc. Vance D. Crandlemire, former Maine Central fireman, who wrote from Yong Dong Po. Vance is attached to a U. S. Army Railroad unit as a locomotive engineer on runs between Seoul and Pusan. He says the Army road "has the same spare board setup as the Maine Central." His first trip over the 277-mile run took 20 hours, with a native fireman who had been in a cab only three times in his life. Later he cut this time to 12 hours.

* * *

NOW IT CAN BE TOLD. "The division of Marines which landed at Inchon on the Korean peninsula," says the *Missouri Pacific Lines News Reel,* "was carried across the American continent by train. Railroads handled the division completely from coast to coast in 20 passenger trains consisting of 335 cars and six freight trains requiring 431 cars. Twenty-one roads cooperated in the operation.

"The last train reached its Pacific Coast port destination six hours ahead of schedule. This was but one of many major

military movements handled by railroads since we entered the Korean conflict."

News Reel also reports that America's railroads employ about 51,000 locomotive engineers, 53,000 locomotive firemen and helpers, 49,000 conductors and ticket collectors, and 109,000 trainmen and brakemen, in their train operations, not to mention those in other branches of service. "For kids imbued with the lure of railroading the line forms to the right."

* * *

PERSONALITIES. Frank E. Martin, recently elected Illinois Central vice-president and comptroller, was picked in the prophecy of his 1913 high school graduating class as a future IC vice-president. At that time he promised that if he made the grade he would treat the class to a dinner in his business car. This he did recently at Newton, Ill.

William B. White, age 74, Rahway, N. J., retired as a Pennsylvania dining-car steward after traveling 7½ million miles during his 53 years of railroading. He served such notables as Teddy Roosevelt, Lillian Russell, Jim Farley and General MacArthur.

Two railroad presidents, F. B. Whitman of Western Pacific, and John Budd of Great Northern, celebrated the 20th anniversary of the opening of the Inside Gateway, the rail route joining the Pacific Northwest and Southern California with a spike-driving duel at Bieber, Calif. The winner, Budd, took the award, a gold spike, to St. Paul for 20 years.

COAT-HOLDERS AND SECONDS at the Inside Gateway anniversary spike-driving duel between Great Northern's white-shirted John Budd and Western Pacific's silver-haired F. B. Whitman were Lucius Beebe and Charles Clegg, noted railroad author-photographer collaborators

Western Pacific

OLD BLUE LAWS had nothing on some of these items from an English railway rule book of 100 years ago:

"Every person is to come on duty daily, clean in his person and clothes, shaved, and his shoes blacked."

"It is urgently requested of every person on Sundays and Holy Days, when he is not required on duty, that he will attend a place of worship; as it will be the means of promotion when vacancies occur."

"Not any instance of intoxication, singing; whistling or levity, while on duty, will be overlooked."

"All the Servants of the Company are to place sand or gravel upon the rails when they perceive, or hear, that an Engine is slipping."

"It is strictly forbidden than any Officer or Servant shall at any time interfere in the least with matters of a political nature."

"All persons, especially those in uniform, are to keep their hair cut."

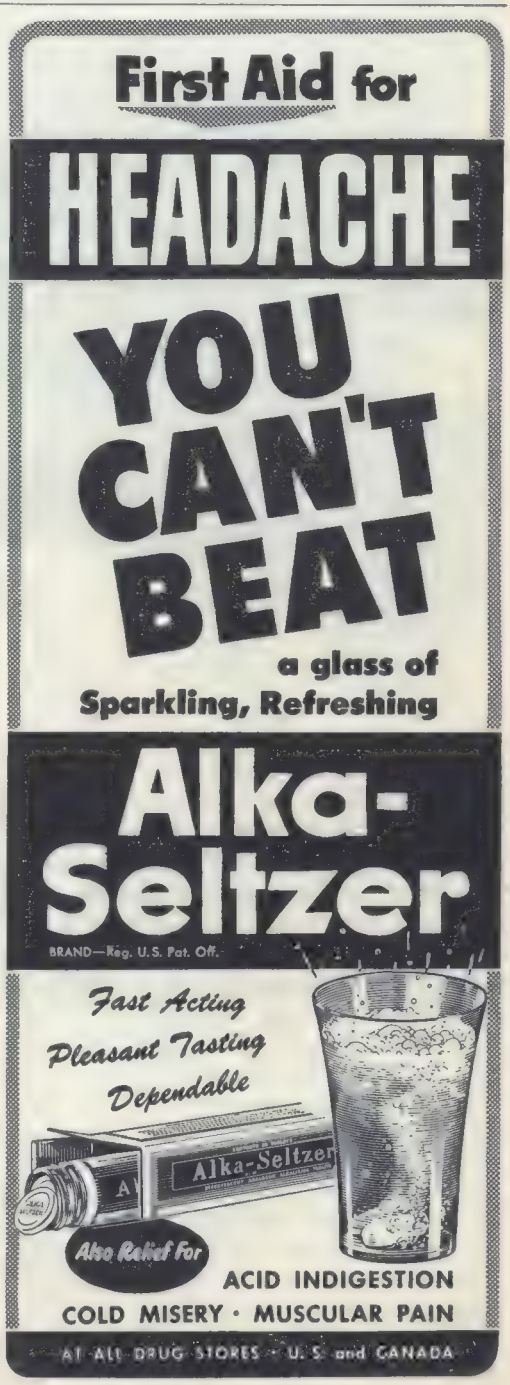
"Persons having passes are to ride in the fourth wagon from the last in the train, and at all times in a sitting position upon the bottom of the wagon."

"No person can become a Station Master unless he is married."

Other rules dealt with the saluting of officers and directors of the company, the penalty for premature arrival at the pay-desk or misbehavior there (wages to be held back till the following pay-day), and forbidding two men with the same surname to work in the same gang.

* * *

REFUELING of a Diesel locomotive on a Lehigh Valley freight train caused quite a stir, reports David M. Sacks, model railroader, 231 Hillcrest Avenue, Plainfield, N. J. The Diesel ran out of fuel at Flemington, N. J., stalling main-line operation until a local fuel dealer rushed an emergency 200 gallons. As the engine rumbled westward again with her string of empties, the fuel truck driver said: "Only the other day I remarked that the only stalled contraptions I hadn't pumped oil into were a plane and a locomotive. Now it's just a plane."



Southern Pacific

ESPEE'S BLOOD DONOR CAR, *The Life Line*, is touring the West and Southwest to get the fluid so urgently needed by the Red Cross for service and civilian transfusions. *The Life Line* is staffed by a doctor, five nurses and a blood custodian

FOLLOWING the Western Pacific's patriotic lead in operating a specially equipped railroad blood-donor car, the *Charles O. Sweetwood,* over its road, the Southern Pacific has a similar car, *The Life Line,* touring Western and Southwestern states to get blood for the armed forces and civilian transfusions. The *Charles O. Sweetwood* is collecting blood only for military and naval personnel.

A. T. Mercier, president of the Espee, dedicated *The Life Line* at an impressive ceremony in San Francisco. This car's program is supervised by the Irwin Memorial Blood Bank of San Francisco in coordination with the Red Cross and private, independent, medically-sponsored blood banks in Espee territory.

Besides desks for registration and medical screening, *The Life Line* has nine beds for blood procurement, a canteen counter for refreshments, and a refrigerator for storing blood. It is staffed by a physician, five registered nurses and a blood custodian.

* * *

CORRECTION. B. E. Faulkner, 119 Cottonwood Street, Wynne, Ark., comments on Linwood Moody's "Hereabouts & Elsewhere Railroads"; "This articles says the Ashley, Drew & Northern in Arkansas has neither an Ashley nor Drew on its line, but the road's southern terminal and headquarters is at Crossett, Ashley County, while the northern terminal, Monticello, is in Drew County."

Moody replies: "Thanks for the correction. It further emphasizes the theme

of my article: You just can't tell why a road was named as it was, nor where it goes, by the places specified in its title."

* * *

RAILROAD STREET in the American scene is nearly as familiar as Main Street, judging from the many answers we're getting to Freeman Hubbard's query, "What other towns have Railroad Streets?" Last month we printed a list of cities and towns with Railroad Streets.

These additions come from Jack Haggerty, Box 2331, Boston 7.

Railroad Streets in Massachusetts: Adams, Attleboro, Billerica, Boston, Bradford, Braintree, Cheshire, Fall River, Fitchburg, Holyoke, Lawrence, Lowell, Newburyport, Quincy, Revere, Salem, Springfield and West Springfield, plus Newfields, N. H., and Providence, R. I.

Railroad Avenues in Massachusetts: Amesbury, Arlington, Attleboro, Bedford, Beverly, Boston, Bradford, Georgetown, Gloucester, Hamilton, Lawrence, Lexington, Lynnfield, Malden, Merrimac, Newburyport, Northampton, North Dighton, North Reading, Norwood, Rowley, Salisbury, Swampscott, Taunton, Westfield, Whitman and Winchester, plus Exeter, N. H.

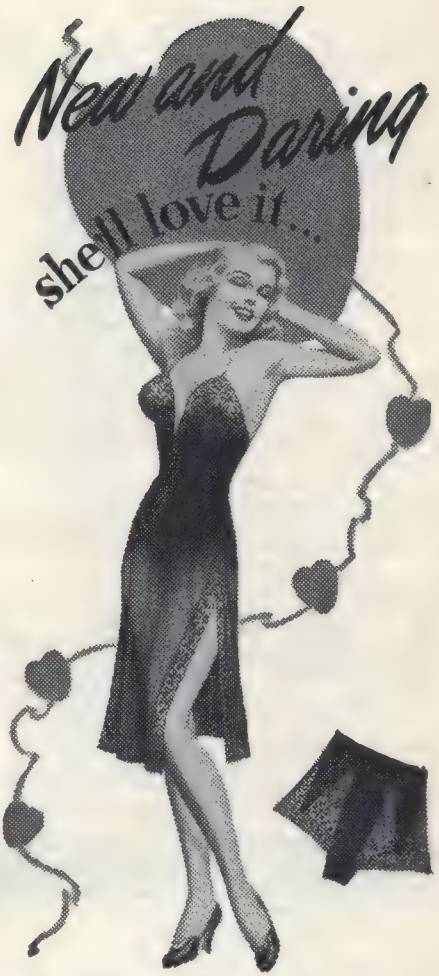
Railroad Squares are in Braintree, Fitchburg, Haverhill and Leominster, Mass.; Concord, Nashua and Pembroke, N. H.

Other Massachusetts towns, Dedham and Lowell, have a Railroad Court; Athol a Railroad Place; Princeton a Railroad Road; Chicopee a Railroad Row, and Lawrence and Springfield a Railroad Terrace.

Nine of these communities have two different Railroad thoroughfares. One of the nine, Lawrence, has Railroad Avenue, Railroad Street and Railroad Terrace.

Other readers supplied the following data:

Railroad Street: Durand, Newberry and North Branch, Mich.; St. Johnsbury and Waterbury, Vt.; Winnemucca, Nev.;



Glamorous personalized slip and pantie set—plunging V-neck—peek-a-boo bust—form fitting slip—lace and film panties—reveal all personal charms—For the modern girl who dresses to please men—name or initials plus motto free.

Send her this lovely combination in multifilament rayon and lace—she'll love you for it. You can't go wrong with a gift that suggests so much.

$8.98 complete set

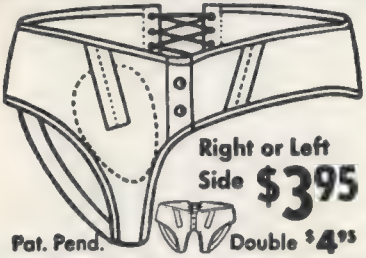
QUALITY BAZAAR 270 Park Ave. New York 17, N. Y.

Please send me ..... pantie and slip combination (s).
☐ Enclosed $8.98 cash, check or money order, for each set. Postage prepaid. Sorry, no C.O.D.'s.
Black ☐ White ☐ Blue ☐ Nude ☐
Sizes 32 34 36 38 40
Mottoes— choose one ☐ "I Love You" ☐ "Forever Yours" ☐ "Dangerous Curves" ☐ "No Trespassing"
Name or Initials.....
Name .....
Address .....
City ..... State.....

AMAZING COMFORT — NO SPECIAL FITTING

RUPTURE-EASER

For MEN, WOMEN and CHILDREN



Right or Left Side **$3.95**

Pat. Pend. Double $4.95

A strong, form-fitting washable support. Back lacing adjustable. Snaps up in front. Adjustable leg strap. Soft, flat groin pad. No steel or leather bands. Unexcelled for comfort. Also used as after operation support. Mail orders give measure around the lowest part of the abdomen and state right or left side or double. (Note: Be sure to give both size and side when ordering.) We prepay postage except on C.O.D.'s.

Over 300,000 Satisfied Users!

10 Day Trial Offer

Money-back guarantee if you don't get blessed relief.

Delay may be serious—ORDER TODAY!

PIPER BRACE CO.

811 Wyandotte Dept. PFM-42 Kansas City 6, Mo.

LAW . . .

STUDY AT HOME Legally trained men win higher positions and bigger success in business and public life. Greater opportunities now than ever before.

More Ability: More Prestige: More Money We guide you step by step. You can train at home during spare time. Degree of LL.B. We furnish all text material, including 14-volume Law Library. Low cost, easy terms. Get our valuable 48-page "Law Training for Leadership" and "Evidence" books FREE. Send NOW.

LASALLE EXTENSION UNIVERSITY, 417 South Dearborn Street
A Correspondence Institution Dept. 4334L, Chicago 5, Ill.

Learn Profitable Profession in 90 days at Home

MEN AND WOMEN, 18 TO 60. Swedish Massage graduates make big money working full or spare time with doctors or in hospitals, health resorts, sanatoriums, clubs, private practice. A dignified interesting career! Qualify for your graduation certificate. Thorough instruction at home as in class rooms. Write for Illustrated Book—FREE!

The College of Swedish Massage

Dept. 295D, 41 E. Pearson, Chicago 11

LAW

STUDY AT HOME for Business Success and **LARGER PERSONAL EARNINGS,** 43 years expert instruction—over 114,000 students enrolled. LL.B. Degree awarded. All text material furnished. Easy payment plan. Send for FREE BOOK—"Law and Executive Guidance"—NOW!

AMERICAN EXTENSION SCHOOL OF LAW

Dept. B-49, 646 N. Michigan Ave., Chicago 11, Illinois

Get into Good Paying AUTO BODY and FENDER WORK

BIG DEMAND in Auto Body and Fender work. Start training now in your spare time at home for good pay work. Practical shop experience included. U.E.I. Training covers metal work, welding, painting, etc. Placement service—or we will show you how to start your own shop. Behind U.E.I. TRAINING is a large national organization founded 1927. Write today for FREE FACTS—No obligation.

Write for Free Facts

AUTO-CRAFTS DIVISION • **UTILITIES ENGINEERING INSTITUTE**
2523 SHEFFIELD AVE., DEPT. XL-5, CHICAGO 14, ILLINOIS

Reader's Choice Coupon

Stories, features and departments I liked best in the April issue are:

1. .....
2. .....
3. .....
4. .....
5.
6. .....

Best photo on page

Name .....

Occupation .....

Address .....

Is stamped envelope enclosed for Camera Club pin and membership card? .....
Railroad Magazine, 205 East 42nd Street, New York City 17.

Mexico, Mo.; Greenwich, O.; Corona, Calif.; Palestine, Tex.; Mount Pleasant and Painesville, Iowa; New Milford and Willimantic, Conn.; Hummeltown, Loupurex, Palmyra and Pottsville, Pa. and Topeka, Kan. Topeka's Railroad Street was shortened when the Union Pacific took over most of it for a larger depot.

Edward Goodale, 63 Homewood Avenue, Hamilton, Ontario, says his city has both a Railway (formerly Railroad) Street and a Locomotive Street. The latter ends on a hilltop overlooking the present Canadian National roundhouse.

"On this site," he adds, "the Great Western had shops where, in 1857, they turned out pioneer sleeping cars (two years before the Pullman Company built a sleeper) and in 1859-60 they built Canada's first home-built locomotive. No wonder the street is named Locomotive Street."

We learn from a retired Missouri Pacific conductor, E. M. Bradley, 2346 Klemm Street, St. Louis 10, Mo., that Sedalia, Mo., has an Engineer Street, named for four engineers—William Vedder, Robert Lister, James Quinia and

On the Spot

Nelson A. Bradley—who built homes for their families on a road on the west side of a cornfield in the early 1870s.

* * *

ROCK ISLAND men, aiding in our search for cabooses with the conductor's name painted on the side, place No. 18058 in that class. Conductor James P. Bullard and his crew made that caboose famous for their solicitation of freight business. They did so well that No. 18058, built in 1904, was shown at the Missouri State Fair in 1928; at the Century of Progress, in Chicago in 1934; at the International Petroleum Exposition in Tulsa, in 1936 and at the Texas Centennial in '36. When Jim Bullard retired in '49 his caboose was pulled out of service and given to the St. Louis Museum of Transport as an historical relic.

T. J. Zirbes Jr., editor of the *Rock Island News Digest,* writes: "I understand that on the spot where the original bridge across the Mississippi was built, there is today a small monument composed of rocks from the first span. There is, however, no mention of our road having built the bridge on this spot. A peculiar local ruling prevents the CRI&P from using its name or emblem there."

* * *

LAST STOP is the Reader's Choice Coupon (page 136) which guides your editorial crew in selecting material for future issues of *Railroad Magazine.* Results of balloting on the February issue show as follows:

1. NY's Forgotten Railway, *Krampf*
2. T&NO Junction, *Hastings*
3. Locomotives of the New Haven Light of the Lantern
4. On the Spot
5. A Trip on the Niagara, *Maguire*
6. The GM's Story, *Burdick-Knapke*
7. Spur to Nowhere, *Moran*
8. Student Brakeman, *Morehead*

Best photos: pages 54-55, 42, 86, 105

Let the Davis Tailoring line help you reach your goal in 1952!

EARNING OPPORTUNITY you'll appreciate...

Davis—America's leading Tailoring Institution

— offers fastest selling Spring and Summer tailoring line. Amazing values — nationally advertised! Make good money regularly. Write us NOW.

DAVIS

Tailored-To-Measure Clothes for Men & Women

- *Slacks*
- *Sport Coats*
- *Shirts*
- *Ranch Wear*

THE P. H. DAVIS TAILORING CO.
Dept. 253 2314 Iowa Ave., Cincinnati, O.

Doctor Reveals How He STOPPED SMOKING

DOCTOR DEVELOPS NEW, SAFE, SURE FORMULA!

Here's new hope for thousands of folks who have tried to break the tobacco habit without success. No matter what you've tried before, don't despair. A well-known Chicago doctor (name on request) stopped smoking himself in 7 days with a new formula of his own making—now available in StopBaco Lozenges. You—a loved one, or friend can quit tobacco once and for all, just like the Doctor did, in 7 SHORT DAYS this new, easy way. Absolutely safe. AND YOU DON'T RISK A PENNY! StopBaco Lozenges must give you permanent results in 7 days or they cost you nothing. **SEND NO MONEY!** Just mail name, address. Pay postman $2.00 plus postage on delivery. Or send $2.00 and we pay postage. Take StopBaco Lozenges like candy. The desire for smoking must be gone within 7 DAYS—*and gone for good!*—or you can return empty package for immediate refund. This is a new, different, doctor's formula . . . and it works. Order now by writing direct to Doctor M.E.D.,
E-Z INDUSTRIES, Dept. 123, 1226 N. Western Av., Chicago 22, Ill.

$23,600 CASH PROFITS FOR 11 DEALERS!

Flexiclogs Sweep Entire Nation!

NOW! Cash in on sensational style craze! Sell FLEXICLOGS, new patented hinged wooden sandals that actually "flex" with your foot! Colorful models for men, women, children. Sell to entire family, make triple profits! Complete line of accessories for extra cash. Introduce FLEXICLOGS in spare time in your neighborhood—make up to $40 a day on 10 easy sales! We start you with FREE Sample offer. No investment! Send coupon NOW, start earning BIG MONEY!

WRITE FOR FREE SAMPLE OFFER!

FLEXICLOGS, Box PF-4
New Holstein, Wisconsin
Rush Free Sample Offer so I can introduce Flexiclogs and pocket lots of EXTRA DOLLARS right away!

Name .....
Address .....
Town ..... State .....

When **NERVOUS TENSION GETS YOU "UP IN THE AIR"**

. . . try Miles Nervine for welcome relief. Contains no Barbiturates nor other habit forming drugs. Follow the label. Avoid excessive use. At all drugstores.

MILES NERVINE

Picture Your Relief

FROM THE DISTRESS OF ASTHMA ATTACKS

You will no longer dread the agonizing symptoms of bronchial asthma once you discover Dr. R. Schiffmann's ASTHMADOR...the quality-blended formula that acts to relieve congestion...helps make breathing easier. Ask your druggist today for famous

ASTHMADOR

in powder, cigarette or pipe mixture form

INVENTORS

If you believe that you have an invention, you should find out how to protect it. We are registered Patent Attorneys. Send for copy of our Patent Booklet "How to Protect Your Invention," and an "Invention Record" form. No obligation. They are yours for the asking.

McMORROW, BERMAN & DAVIDSON
Registered Patent Attorneys
1509 Victor Building Washington 1, D. C.

EAR ACHE?

DENT'S

EAR WAX DROPS for fast temporary relief of accumulated wax condition

TOOTHACHE?

ask your druggist for DENT'S TOOTH GUM, TOOTH DROPS or POULTICE

MAKE EXTRA MONEY

EVERY BUSINESS EVERYWHERE USES UNION LABEL BOOK MATCHES

No experience needed to earn big daily commissions. Be a direct factory representative of the world's largest exclusive UNION LABEL Book Match manufacturer. Prospects everywhere. Feature Glamour Girls, Hillbillies, scenics and dozens of other styles—Double Books—Jumbo Books—nearly 100 color combinations. New, bigger portfolio makes this fastest selling line a real profit maker for you. Write TODAY for full details.

SUPERIOR MATCH CO.

Dpt. S-452, 7528 S. Greenwood Ave., Chicago 19, Ill.
West Coast Salesmen, write Box 1087, San Jose, Calif.

Rock Island Lines

PIONEER ROAD ENGINEER of the Rock Island Lines was Samuel B. Reed, a man of unusual ability in charge of the road's construction a century ago

Railroad Camera Club

An Editor Speaks

An Address by J. R. Garber At ARMEA'S '51 Convention

EACH MONTH I receive, through an exchange arrangement, copies of most magazines published by the railroads and edited by the American Railway Magazine Editors Association. In fact, I have met a number of the editors personally during the past five years of my editorship of *Train Dispatcher Magazine* and have had correspondence with a number of others as well as public relations and advertising officers of many lines. One day when I thought I was taking an unusual amount of time in selecting a photograph for a cover picture intended to portray the scenic

attractions of rail travel, I offered an apology for using so much of the gentleman's time. His reply was: "There's nothing more important than this." It was indeed the kind of encouragement needed to make one feel that an effort to picture railroads to good advantage was worthwhile.

During the past five years, my publication has devoted 26 numbers to feature stories about individual railroads, with a cover picture from every line except one and that one was because a suitable scene was not available in the library of the company in time to go with the story.

I recall the feature story of one prominent railroad where it was intended to show one of the most beautifully scenic spots on its line, a winding curve on a mountain grade. Because there had recently occurred two disastrous wrecks at that point, it was agreed between myself and the public relations man of the line that we would use a scene of another part of the railroad to avoid drawing attention to a tender subject.

It isn't necessary to touch on the matter of publishing pictures of railroad wrecks, washouts or crossing accidents. Maybe we can't prevent the commercial press from front paging or banner headlining some railroad accident, but let's not do it ourselves. Here's a mistake I made. A year or two ago, after the railroad presidents had arranged with railroad labor chief executives for cooperation in propagandizing the anti-truck campaign, we labor editors were deluged with material and pictures sent out by one of the New York publicity concerns. Among them were a number of pictures of railroad accidents where trains were struck by oil trucks and people were being carried to hospitals. One picture showed the Santa Fe *Chief* being sprayed by a municipal fire department to put out a fire resulting from a crash with a gasoline truck. I published one of those pictures. Looking at it later, I realized that it was a "hell of a way" to impress the traveling public with the safety of train travel. I've

one dollar spent for this book may save you hundreds in car repair bills!

CAR OWNER'S GUIDE

$1.00

Here are 1,000 facts and hints on how to keep your car running smoothly . . . to save gas, oil, tire wear, etc. Told in simple, easy-to-follow words and pictures. Look!

LUBRICATION
When, what and where to lubricate.

BRAKES
How to operate, adjust, clean and lubricate.

THE ENGINE
Adjusting valve tappets, tuning-up, preserving the motor.

THE COOLING SYSTEM
Care and repair of the water pump, fan belt.

THE ELECTRICAL SYSTEM
Operation of the battery, generator, starter, spark plugs, etc.

THE FUEL SYSTEM
How to get the most mileage out of each gallon of gas.

THE CLUTCH
Operation, "play", failure to disengage, cause of noises, fluid drive.

• • • • • • •

LIST OF HAND TOOLS
HUNDREDS OF OTHER USEFUL HINTS

QUALITY AGENCY
270 Park Avenue
New York 17, N. Y.

Gentlemen: Send me postpaid ..... copies of the "CAR OWNER'S GUIDE" @ $1 each. I enclose $..... (Cash, Check or Money Order—Sorry, no C.O.D.'s) If I am not satisfied I may return within ten days and my money will be refunded.

NAME .....

ADDRESS .....

CITY ..... ZONE .... STATE .....

been careful ever since to suppress anything of that nature.

However, I recall another picture of a freight train plowing through a backed-up tidewater. I got around the safety angle by pointing out that the track was heavy rock ballast, heavy steel, treated ties and elevated signaling, providing every safety needed for such an operation. This was supposed to express the old axiom that regardless of the elements, the trains must go through.

It may be that the fellows who edit publications of individual railroads are in such a competitive position that it would not be possible to feature or say kind words about a neighbor rail line. There are, however, no restrictions on a publication such as mine. Our organization represents the train dispatchers on most of the railroads in the U.S.A.; therefore, we are free to speak well of any of them.

Our feature stories generally contain a history of the railroad and the progressive things it has done to keep pace with the needs of the traveling and shipping patrons. Since the employes in my particular craft serve in the operating department, and because of space limitations, recognition of officials of the railroad has been restricted to the president of the road and those in the operating department.

In connection with reciting historical facts about railroads, it has been found that some of them have had a wretched financial history. Through the cooperation and advice of the public relations department of one such line, we agreed to "look forward" instead of dwelling on past misfortunes. By this method we have, I hope, made our readers look favorably on a railroad that had overcome its difficulties and was now a strong and useful unit in the transportation picture.

You must believe in your cause. Ours is unquestionably the advancement of the railroad cause. May we never live to see the day when the railroads will cease to be as they now are—the backbone of the nation's industrial life and the strong sinews to protect us in time of danger.

SEND FOR THIS FREE!

Make money. Know how to break and train horses. *Write today for this book FREE*, together with special offer of a course in Animal Breeding. If you are interested in Gaiting and Riding the saddle horse, check here ( ) *Do it today—now.*

BEERY SCHOOL OF HORSEMANSHIP
Dept. 844 Pleasant Hill, Ohio

If Ruptured

TRY THIS!...

If you can obtain relief by holding back your rupture or ruptures in this manner—I CAN HELP YOU! Write today for my valuable FREE information which is based on 23 years of practical experience.

FRED B. MILLER, Mgr.
Dept. G, Hagerstown, Maryland

START YOUR OWN BUSINESS

on credit. Your own boss. 1437 Dealers sold $5,000 to $28,500 in 1950; their average $6,704. We supply stocks, equipment on credit. 200 home necessities. Selling experience unnecessary to start. Wonderful opportunity to own pleasant, profitable business backed by world wide industry. Write RAWLEIGH'S, DEPT. D-U-PBL, Freeport, Illinois.

FLORIDA—Several 5 acre tracts high and dry. Raise fruits and vegetables, 60 miles from St. Petersburg and Coast. Fine fishing and swimming. Only $245.00, $10.00 down, $10.00 month. For details write G. B. Potterfield, Union Building, Charleston, West Virginia.

MEN PAST 40

Too Often Neglect Indications of ILL HEALTH

Watch yourself for unusual aches and pains. Such disturbances as pains in back, hips and legs, unusual tiredness, nervousness, dizziness, physical inability or sleeplessness often may be traced to glandular inflammation.

The Excelsior Institute, a medical institution devoted exclusively to the treatment of diseases of older men, has a revealing FREE Book. It tells how many hundreds of men yearly are finding soothing and comforting relief from their ailments and a new outlook on life. This FREE Book gives factual knowledge that could prove of utmost importance in the later years of your life. No Obligation. Address

Excelsior Institute, Dept. 7701, Excelsior Springs, Mo.

ITEMS sent to the *Switch List* and *Model Trading Post* are published free, in good faith, but without guarantee. Write plainly and keep 'em short. Print name and complete address.

Because of time needed to edit, print and distribute this magazine, all material should reach the Editor nine weeks before publication date. Redball handling is given to items we get the first week of each month, if accompanied by latest Reader's Choice Coupon (clipped from page 136 or home-made).

Use these abbreviations: *photo,* photograph; *cond.,* condition; *ea.,* each; *elec.,* electric; *env.,* envelope; *eqpmt.,* equipment; *esp.,* especially; *info.,* information; *n.g.,* narrow-gage; *negs.,* negatives; *p.c.,* postcard; *pref.,* preferably; *tr.,* train.

Do not use the term *pix* interchangeably for photos and drawings. Specify *photo* or *drawing.*

The term *tts.* refers to public timetables, unless preceded by *emp.,* when it means employe's (operating) timetables.

(R) indicates desire to buy, swap or sell back issues of *Railroad Magazine* or its predecessors, *Railroad Man's Magazine* or *Railroad Stories.* (Specify condition of each copy.)

(*) indicates juicefan appeal.

SWITCH LIST

JIM ADY, 333 Ximeno Ave., Long Beach 14, Calif., wants Best's *Locos of the SP,* Oct. 4, '41 *Ry. Age,* '30 *Loco Cycl.;* will buy, sell or trade western emp. tts. Pays highest prices for LV&T, Eureka Nevada, Carson & Colo. emp. tts.

RICHARD W. BIERMANN, 887 15th Ave., Menlo Park, Calif., wishes correspondents to note new address; formerly lived on 20th St., San Francisco.

CARLTON BOYD, 246 E. St., Lincoln 8, Neb., wants to buy at least one copy of old, large-size Rock Island's Cedar Rapids Div. emp. tts. State price.

(R) FLOYD A. BRUNER, East Marion Rural Sta., Marion, N. C., has *Railroad Magazines, Trains, State* mags. issues by North Carolia, *Statistics of Rys. of the U. S.* for yrs. '44 to '48; will trade for other RR books or size 116, 122 negs. steam locos for Southern or Clinchfield RRs. Also trades same size negs., photos of the same rds. Wants *Ry. Review* June 7, '24 containing Clinchfield loco article. Write first; state list pref., mag., photos or negs.

(*)ALFRED BRUNNER, 4107 E. Indianola, Phoenix, Ariz., wants photos, negs., maps elec. lines around Chicago, esp. CTA, Chicago & Westowns Ry. Will buy or trade. Write first.

(*)JIM BUTTS, 242 N. E. Ave., Waukesha, Wis., sells size 116 photos of MRT&S, CTA, CNS&M, CWT, other midwest elec. lines. No lists; specify wants.

(*)STANLEY COOK, 94 Milton Ave., Dorchester 24, Mass., will sell for 40c or trade for interurban transparencies 36 mm. kodachrome of open bench trolley in a country setting of 30 yrs. ago.

HOWARD DAVIS, 220 Richards St., Pittsburgh 14, Pa., wants size 616 steam negs. of NS, DT&I, Rutland, B&M, D&H, DM&IR, AT&SF, SP, WP, NP, GN, Milw., TP, Will trade five size 616 photos for ea. neg.

LOUIS DESROSIERS, Chandler, Que., Canada, wants photos Alaska RR. Has roster Iranian Ry. locos with specifications.

NOW YOU CAN Stop Smoking EASILY, QUICKLY, SAFELY GUARANTEED!

Smoking too much? Want to cut down or quit completely because of shortness of breath, appetite loss, throat irritation or for any other reason? It's easy! Thousands have been helped by scientifically formulated and clinically tested, safe, pleasant-tasting NICOLYNN. Used as directed, it reduces craving for tobacco in any form without shock to the nervous system.

88% HELPED IN ONLY 5 DAYS!

NICOLYNN is guaranteed to show favorable results in five days OR YOUR MONEY BACK. A single $3 bottle will help you control the habit for 40 days . . . tobacco will lose its appeal for as long as 6 months. Just put 4 drops on your tongue 3 times daily. Non habit-forming.

SEND FOR BOTTLE OF NICOLYNN TODAY!

YOU RISK NOTHING! Send cash, check or money order for $3.00 (No C.O.D.) . . . Use this amazingly effective control for five days. If you feel it has not helped you to cut down in that time, return the partially-used bottle and get your money back.

ONLY $3.00 POSTPAID

NICOLYNN SALES CO., Dept. C
P. O. Box 177 College Park 4, Md.

CARBURETOR TOO RICH
MAKES MOTORIST TOO POOR

Car owners who are wasting money and not getting proper gas mileage due to over-rich mixtures will be pleased to learn how to save gasoline by VACU-MATING over-rich mixtures. VACU-MATIC fits all cars, trucks and tractors. It is *automatic* and operates on the supercharge principle. Easily installed in a few minutes.

SALESMEN WANTED! Big Profits! Send name, address on penny postcard for *free particulars* and how to get yours for introducing.

VACU-MATIC CO., 7617-1857 W. State St., WAUWATOSA, WIS.

RUPTURED?
Get Relief This Proven Way

Why try to worry along with trusses that gouge your flesh—press heavily on hips and spine—enlarge opening—fail to hold rupture? You need the Cluthe. No leg-straps or cutting belts. Automatic adjustable pad holds at real opening—follows every body movement with instant increased support in case of strain. Cannot slip whether at work or play. Light. Waterproof. Can be worn in bath. Send for amazing **FREE** book, "Advice To Ruptured" and details of liberal truthful 60-day trial offer. Also endorsements from grateful users in your neighborhood. Write:

CLUTHE SONS, Dept. 15, Bloomfield, New Jersey.

MAKE BIG MONEY **PLASTICS** LEARN AT HOME

LEARN HOW TO MAKE fast selling PLASTIC NOVELTIES FURNITURE JEWELRY SIGNS TOYS LAMPS

There are RICH OPPORTUNITIES for MEN and WOMEN with "know-how" in Plastics. Interstate's amazing new Plastics course tells and shows how to make hundreds of fast selling items out of Plastics. Gives complete training in fabrication, casting, lamination, molding, etc., in simple, easy, step-by-step language and pictures.

START A PLASTICS BUSINESS OF YOUR OWN. No other industry holds such promise for the future. You can make big money manufacturing novelties, toys, signs, etc., in your own home in spare or full time. Don't wait! Learn NOW how Interstate's Plastics Training qualifies you for success in the plastics field.

Write for FREE Information Today!

INTERSTATE TRAINING SERVICE
School of Plastics, Dept. C-11D
PORTLAND 13, OREGON

CHOKED with stomach GAS!

THANK HEAVENS! Most attacks are just acid indigestion. When it strikes, take Bell-ans tablets. They contain the fastest-acting medicines known to doctors for the relief of heartburn, gas and similar distress. 25c. Everywhere.

HE-MAN VOICE!

STRENGTHEN your voice this tested, scientific way. Yes — you may now be able to improve the POWER of your speaking and singing voice . . . in the privacy of your own room! Self-training lessons, mostly silent. No music required.

FREE BOOK

Write TODAY for Eugene Feuchtinger's great booklet "How to Develop a Successful Voice." It's absolutely FREE! You must state your age. No salesman will call. Send your name and age RIGHT NOW!

PREFECT VOICE INSTITUTE
210 S. Clinton St., Studio D-5, Chicago 6, Ill.

HYPNOTISM

Learn to apply this tremendous POWER. Win Love. Develop magnetic personality, control. Increase your income. ANYONE can master this great mystic power in short time. DON'T DELAY. Write for free information NOW—TODAY!

"Proven guaranteed results since 1921"
INSTITUTE OF APPLIED HYPNOLOGY
120 Central Park So., N. Y. 19, Dept. 38

A real gripper

You can learn to write and sell exciting stories at home. Write for free details.

WRITER'S DIGEST, Dept. T, 22 E. 12th St., Cin'ti 10, Ohio

SPEAK UP! SAY WHAT YOU MEAN

Ever have trouble "finding the right word?" Here's your key to IMMEDIATE success in word usage. No lengthy courses. Anyone can use this easy method.
Send no money, just name and address and pay postman $1.00 plus C.O.D. postage. Or send $1.00 and we pay postage.

DUNNELL EDUCATIONAL SERVICE
35 Church St., White Plains, N. Y.

Find HIDDEN TREASURES

GEIGER COUNTERS for Uranium Detection (see at left). TREASURE DETECTORS for gold, silver, etc. Lightweight, ultra sensitive. None finer at ANY PRICE. INFORMATION FREE.

Detectron CO. Dept. 9
5631 Cahuenga, No. Hollywood, Calif.

Free Book on Arthritis And Rheumatism

HOW TO AVOID CRIPPLING DEFORMITIES

An amazing newly enlarged 44-page book entitled "Rheumatism" will be sent free to anyone who will write for it.

It reveals why drugs and medicines give only temporary relief and fail to remove the causes of the trouble; explains a proven specialized non-surgical, non-medical treatment which has proven successful for the past 33 years.

You incur no obligation in sending for this instructive book. It may be the means of saving you years of untold misery. Write today to The Ball Clinic, Dept. 16, Excelsior Springs, Missouri.

RAILROAD CAMERA CLUB is open to all who collect railroad or streetcar pictures or other railroadiana such as timetables, passes, train orders, trolley transfers, magazines, books, etc. There are no fees, no dues.

Membership card and pin are given free to anyone sending us the latest Reader's Choice Coupon and self-addressed stamped envelope. If you don't want to clip page 136 make your own coupon. Address *Railroad Magazine*, 205 East 42nd Street, New York 17. Tell us what you want or what you offer; otherwise your name will not be printed here.

H. C. ELDRIDGE, 327 Tioga St., Trenton 9, N. J., will buy at $10 ea., official, original *Loco Registers*, PRR, PFW&CRW, PCC&StL, GR&I, Vandalia line. Also will pay your price for photos or the loan of your negs. PCC&St.L 29, 511, 512, 8343, 8540, 8541, 8543, and any loco in 600 series.

(R)MARVIN FROMM, R D. 4, Box 193A, Greensburg, Pa., will sell *Railroad Magazines* '48 to '50; most in good cond., 3 issues missing. Make offer.

(*)O. A. GOESSL, 6959 Canal Blvd., New Orleans 19, La., has new list trolley photos from most companies, available with sample photo 10c. Has old-time NOR&L photos: almost all types of scrapped Birmingham eqpmt. Will also trade good negs., size 116, 616 closeups NO cars for those of other cities; wants to trade with fans with Canadian trolley negs.

ROBT. GOIN, 27-14 Morlot Ave., Fair Lawn, N. J., wants to buy photos Erie *Ten-Wheelers, Atlantics*, 2-10-0s.

(R) EMIL GUSE, 5418 Wood Ave., Hammond, Ind., has *Railroad Magazines, Trains* from May '47 to Jan. '52; all like new, exc. several are missing one clipping; $7 ea. group to first offer.

RAY F. HIGGINS, 419½ Katahdin Ave., Millinocket, Me., wants pictures, info. on the Bangor & Aroostook engs. sold '13 to '17 to Atlantic, Quebec & Western RR. Hoisting Machine Co., and Dominion Coal Co. Also wants pictures info. Bangor & Piscatquis RR, Bangor & Katahdin Iron Works Ry., Patten & Sherman RR.

E. A. HILL, 413 St. John St., Portland 4, Me., will sell *Model Railroader* from Jan. '38 to Mar. '51, '40 bound; *Miniature Railroading*, Dec. '40 to autumn '41; best offer receives all.

(R) L. G. HILL, Box 844, Lincoln, Neb., will sell *Railroad Magazines, Off. Guides, Trains*, emp. tts.; free lists. Wants annual ICC, State Ry. Comm. reports.

C. J. HITCHCOCK, 214 No. Elmwood Ave., Kansas City 1, Mo., wishes help with his 2 hobbies; wants obsolete uniform conductor and brakeman buttons and old picture post cards.

(*) K. E. HOUSER, HM2, 293-82-20, Infirmary, Box 66, USN Mine Depot, Yorktown, Va., wants to buy photos Ind. RR, C&LE, Indianapolis & Cincinnati, IC&E, Dayton & Troy Elec. Ry.; desires corres. with ex-employees of the Indianapolis & Cincinnati.

CHAS. HUFFER, Assumption, Ill., will buy all '41 *Trains* exc. May, June, July. Needs Mar., Aug., Sept. '45 *Trains*. Will buy emp. tts. Wabash Decatur Div., IC Springfield Div. prior '35; B&O Ind. Div. prior '31. Trades good size 116 steam photos for pictures of locos, trs., stations, scenes along old Effingham Br. of Wabash; trade photos for ITC emp. tts. prior '41 or Iowa interurban emp. tts

JAMES W. HULSMAN, 414 Pine St., Tamaqua, Pa., called into military service, will conduct his neg. trading on a limited basis, depending on location; hopes no one makes copies of his negs. without his permission.

(R) F. M. KALAHAR, 6115 N. Vancouver Ave., Portland 11, Ore., will trade *Railroad Magazines* Dec. '30, Jan. '31, Oct. '37, July '39, Mar. '41, Nov., Dec. '42, Jan., Mar., Apr. '43; good cond., all front covers, for emp. tts., *Off. Guides*, or will sell for 25c ea.

Railroad Camera Club

W. J. KIEFER, 378 Cleveland Ave., Salt Lake City, Utah, will sell size 616 negs. locos his area; send stamped env. for list. No trading.

ROBT. H. KITCHEL, Riomar, Vero Beach, Fla., will sell tr. ords., tts. from many RRs or will trade for emp. tts. Send your wants or trade list.

PETER KROP, 251 E. 7th St., New York 9, N. Y., will sell size 116 steam negs., 10c to 50c ea. Will buy oldtime eng., trolley negs. or trade photographic service.

WALTER C. LABYS, R. D. 2, Box 79, Latrobe, Pa., wants old tts., will trade RR kerosene lanterns.

MARVIN LANDSMAN, H Bldg. 1475 Grand Concourse, Bronx 52, N. Y., wants to hear from collectors of transportation tokens who are interested in joining a club devoted to this purpose.

ROBT. A. LEMASSENA, 2249 Elm St., Denver 7, Colo., is disposing of 700 diff. passes from his collec., issued by 435 rds., 1855 to 1935.

(*) KENNETH S. MacDONALD, General Delivery, Marysville, New Brunswick, Canada, will sell photos, size 616, 10c ea., steam locos, trs., CNR, CPR, CV, DAR, PGE, C&IM, IC, M&StL, SP; also CNR, DAR, PGE elecs.; locos used on Royal tr.; 5c for list.

(R) E. D. McDONELL, 194 Broadway Ave., Shawinigan Falls, Que., Canada, will sell for highest cash bid received within one month *Railroad Magazines*, Oct. '34 to date, all perf. cond., shipped express collect.

(R) JACK MANLEY, 210 Ave. C, Snohomish, Wash., wants Sept. '45 *Railroad Magazine* containing *Death Avalanche* by Michael Cory.

ROBT. C. MARCUS, 257½ W. 42nd St., Los Angeles 37, Calif., will sell set of 10 photos, Pac. Elec. Northern Div., abdn. Sept. 29, '51, black and white $1 or color 3x4½, $4.50.

(R) JAMES O. MASON, Eastgulf, West Va., wants *Railroad Magazines* '50, '51 to Aug.

ELMER E. MILLER, 313 N. Newberry St., York, Pa., wants old telegraph omnigraph. Will trade key, relay, sounder.

OLIVER G. PECTAL, Box 171, Northfield Conn., will sell RR books, old and new, 1/3 off on new books; postage extra. Write for list.

Miss JOAN M. PERRY, 1002 W. James St., Norristown, Pa., will swap RR ballads, old and new; also wants to buy photos of old frt. trs., locos.

JOHN PICKETT, 3537 Locust St., Philadelphia 4, Pa., has size 616 Rutland eng. negs. to trade for other Rutland negs., size 616 only. Wants Rutland fans to write, listing trades. Offers list of p. c. size steam eng. negs. of var. rds., sale only, for 3c stamp. Write before May 1.

J. E. PIPER, Box 181, Kinmundy, Ill., will sell compl. set C&EI emp tts. 1 to 44, excell. cond., inclu. any supplements to highest bidder. Has 11 *Off. Guides* in good cond., var. dates in '48, '49, '50, '51; will sell for best offer.

(R) J. M. POLEN, 1509 Wade St., Indianapolis, Ind., will sell *Railroad Magazines*, '41 to '46 compl.; '47 exc. 4, 5, 6, 10, 11; '48 exc. 1, 3; '49 to '51; good, clean cond.; 25c per copy or entire lot, $25.

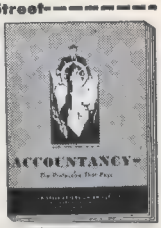
ACCOUNTANT
BECOME AN EXPERT
.. BOOKKEEPER .. C.P.A.

The demand for skilled accountants—*men and women who really know their business*—is increasing. National and state legislation is requiring of business much more in the way of Auditing, Cost Accounting, Business Law, Organization, Management, Finance. Men who prove their qualifications in this important field are promoted to responsible executive positions.

Knowledge of bookkeeping unnecessary. We train you from ground up, or according to your individual needs. Low cost; easy terms.

Send for *free* 48-page book describing the LaSalle accountancy training and the opportunities in this highly profitable field—plus "Ten Years' Promotion in One," a book which has helped many men.

LASALLE EXTENSION UNIVERSITY
A CORRESPONDENCE INSTITUTION
——————417 S. Dearborn Street——————
Dept. 4334HR Chicago 5, Ill.



Please send me "Accountancy, the Profession that Pays"—plus "Ten Years' Promotion in One"—without obligation.

☐ Higher Accountancy
☐ C.P.A. Coaching
☐ Bookkeeping
☐ Law: LL.B. Degree
☐ Business Management
☐ Salesmanship
☐ Traffic Management
☐ Foremanship ☐ Stenotypy
☐ Industrial Management (Machine Shorthand)

Name.....*Age*.....
Address.....
City, Zone, State.....

High School Course at Home
Many Finish in 2 Years

Go as rapidly as your time and abilities permit. Course equivalent to resident school work—prepares for college entrance exams. Standard H. S. texts supplied. Diploma. Credit for H. S. subjects already completed. Single subjects if desired. High school education is very important for advancement in business and industry and socially. Don't be handicapped all your life. Be a High School graduate. Start your training now. Free Bulletin on request. No obligation.

American School, Dept H449, Drexel at 58th, Chicago 37

Special Offer
WORK CLOTHES BARGAINS!

FREE 10 DAY TRIAL

Blue, Tan, White
Measure Neck & Arm

Blue, Tan, White
Measure Waist & Leg

Blue, Tan, White
Send Chest Measure

Blue, Tan, White
Send Chest Measure

WHAT A BUY! Surplus stock from a big midwest supply firm makes these gigantic savings available to you! Sturdy, serviceable work clothes, though used, have been washed, thoroughly sterilized and reconditioned. Every garment made of long-wearing wash materials, strongly sewn, with reinforced stitching at points of strain. When ordering please state measurements under item.

SEND NO MONEY! Just send name, complete address, clothing desired (state how many of each), and your color choice (also 2nd color choice). We will ship immediately. Pay postman, plus postage when your order arrives. Or, enclose cash, check or money order, and We Pay Postage. Keep 10 days. Return for full refund of purchase price if not completely satisfied. Order TODAY at our risk!

YOUNG DISTRIBUTING CO. Dept. 222 2605 Elmhurst, Detroit 6, Mich.

DO YOU HAVE PROSTATE TROUBLE?

General Weakness, Backache, Frequency, Burning Urination, Kidney and Bladder Distress.

The Kansas City Medical Press has just published a revealing booklet which discusses the PROSTATE GLAND in language anyone can understand. Information contained in this book may save you years of suffering. Give name and address.

——— MAIL COUPON TODAY ———

K. C. Medical Press
Dept. T-1. 1440 E. 21st,
North Kansas City, Mo.

Please send me by return mail booklets I have checked below.

The Prostate Gland ☐ Arthritis ☐
High Blood Pressure ☐ Rupture ☐
Please enclose 10c for each book ordered.

MAKE MONEY
Reminding Others

It's easy—and profitable—to get into Greeting Card and Gift business of your own, full or spare time. Show America's greatest line of Birthday, Get-Well, Congratulation Cards, etc. All-Occasion Assortments tremendous sellers. Also big Gift line, wraps, etc. No experience. We tell you how. Actual items sent on approval. Send no money! Rush name on postcard TODAY!
GENERAL CARD CO., 1300 W. Jackson Blvd., Dpt. 55-D, Chicago 7, Ill.

STOP TOBACCO

Banish the craving for tobacco as thousands have with Tobacco Redeemer. Write Today for free booklet telling of injurious effect of tobacco and of a treatment which has relieved over 300,000 people.
In Business Since 1909
THE NEWELL COMPANY
490 Clayton Sta. • St. Louis 5, Mo.
FREE BOOK

Free for Asthma

If you suffer with attacks of Asthma and choke and gasp for breath, if restful sleep is difficult because of the struggle to breathe, don't fail to send at once to the Frontier Asthma Company for a FREE trial of the FRONTIER ASTHMA MEDICINE, a preparation for temporary symptomatic relief of paroxysms of Bronchial Asthma. No matter where you live or whether you have faith in any medicine under the sun, send today for this free trial. It will cost you nothing.

FRONTIER ASTHMA CO. 645-J FRONTIER BLDG.
462 NIAGARA ST. BUFFALO 1, N. Y.

RAILROAD PHOTO ALBUMS
Compiled & Edited by Harry P. Albrecht

Authentic photos from some of America's most famous collections. Each book devoted entirely to a separate classification of locos. At your hobby dealer's, 35¢ a copy; or send 35¢ for 1 issue or $4 for 12-issue subscription to

Fox-Shulman Publications, Inc., Dept. RR
30 East 29th St., N. Y. 16

Miniature Live
STEAM LOCOMOTIVES

NEW 1952 CATALOG. Listing 1½", 1", ¾", ½" & ¼" (O-gauge) scales. ALL CASTINGS, RAIL, STEAM FITTINGS, etc. EXCELLENT DRAWINGS—EVERYTHING FOR STEAM LOCOMOTIVES. Thorough Drawings and written instructions covering "Step by Step" method of construction:

¾" scale, 3½" gauge, 4-6-4 & 4-8-4 . . . $3.00
½" scale, 2½" gauge, 4-6-2 & 4-8-2 . . . $3.00
¼" scale (O-gauge) 4-6-4 & 4-8-4 . . . $3.00

Send for COMPLETE 75-page catalog today. 50c per copy.
LITTLE ENGINES Box 15-C Wilmington, Calif.

STANLEY PRESCOTT, 70 Pleasant St., Rockland, Me., has size 116 eng. photos of Oahu Ry., New England, southern rds. for sale or trade for other photos of New England and southern rds.; send 10c for list, sample photo.

PETE RASMUSSEN, Sutphin Ave., Matawan, N. J., will pay your price for any size photos locos, yd., trk. views Cliffside RR, Grahame County, Castleman River; also info. on these lines. Has few p. c. size negs. on Union Transp. to trade for short line photos.

WM. L. REDDY, 67 Century Dr., West Seneca Br., Buffalo 24, N. Y., wants to trade short line steam RR rosters; esp. Western Canadian short lines, lumber RR rosters; Southern short line. State wants; has no list.

(*)F. E. REIFSCHNEIDER, Box 774, Orlando, Fla., offers free list of trolley history books for sale. Answers p. c's.

WM. RHOADS, 567 Ave. A, Reading, Pa., would like to trade eng. photos, tts. with teen-agers in U. S., foreign countries.

D. M. RICE, 131 Southworth St., West Springfield, Mass. will sell *Trains Albums* of photos. Vols. 1 to 17; will not separate. Also *Railroads of N. Y., High Green and the Bark Peelers, Virginia & Truckee.* Wants *Trains,* Vol. 1 to compl. file. Buys, sells, swaps emps. tts. Request list.

W. H. N. ROSSITER, R. R. 2, Oakville, Ont., Canada, wants *Baldwin Loco* mags. '22, '23, '24 in good cond.; state price per copy. Also wants photos any size PRR K4 2112, NYC 6017.

(*) THOMAS A. RUDDELL, 825 Fernwood St., Emmaus, Pa., wants photos prior to '20, interurban pref., esp. LVT, Allentown & Rdg. Trac., PB&T, PST; also old tts.

JOSEPH RUSZKIEWICZ, 753 Best St., Buffalo 11, N. Y., wants RR map of New York State, pref. around Lake Erie; must be good cond.

E. ALFRED SEIBEL, 26 Wells Ave., Croton-on-Hudson, N. Y., has eng., wooden coach photos of eastern rds. size 616; also NYC Putnam Div. scenes. Send 10c for list, sample print.

JOE SEWARD, 462 West 21st Ave., Vancouver B. C. 10, Canada, wants '30 to '40 *Loco Cycl.;* will buy or trade Audel's *Machinists Handbook.*

(R*) HARTLAND B. SMITH, 467 Park Ave., Birmingham, Mich., will sell unclipped *Railroad Magazines* Nov. '43 to date; *Trains* Mar. '47 to May '49, 30c ea., p.p.; most *CERA Bulletins* '45 to date. Misc. steam and elec. material; list 3c.

(R) WESLEY N. STEAD, Box 592, Effingham, Ill., will pay fair price for Feb., Mar., Apr. '38 *Railroad Magazines;* used copy Beebe's *Highliners;* also would like few photos L&N headend collision of First No. 17 and No. 38, near Wald, Ala., Sept. 29, '32.

PAUL R. STONE, 1103 Rebecca Ave., Pittsburgh 21, Pa., wants RR monograms, cloth only, of all rds.

(R) H. A. SUMMERS, 1435 Ashland Circle, Norfolk 9, Va., will sell back issues *Railroad Magazines, Trains, Model Builder, Model Craftsman.* List for stamp.

(*) GEORGE D. THOMASON, 59 Lampton Rd., Hounshow, Middlesex, England, wants used copy Lucius Beebe's *Mixed Train Daily;* will trade British railroadiana. Answers all mail.

WALTER VAN DYCK, 850 Harway St., Kalamazoo 22, Mich., starting photo collec., would like one photo from as many short lines as possible, pref. abdn. rds.

(*) A. F. VON BLON JR., 1700 West Ave., Waco, Tex., has 8 mm. camera and projector; Bridgeton & Saco River, Galveston-Houston elec. emp. tts.; small collec. of switch keys; annual passes; tts., emp. tts.; local card tkts; will sell or trade for tts. emp. tts., annual passes or certain items from Tex. RRs.

G. H. WARREN JR., 12 Del Hambre Circle, Walnut Creek, Calif., wants copy *Miniature RR Service and Repair Manual* by Louis Hertz, published in '39, good cond.

W. S. WEBER, 6117 Buena Vista Ave., Oakland, Calif., will sell Kip Farrington's *Railroads at War,* $1, new books; also odd issues of *Trains* '43 to date, 40c ea.

CHARLES K. WILLHOFT, 3555 N. 9th St., Milwaukee 6, Wis., will sell size 616, 116. 122 photos. Send 10c for list. Wants to buy negs. CMStP&P, C&NW, Soo Line, size 616 or 122.

THOMAS A. WILSON, 814 N. Morrison St., Appleton, Wis., will sell 130 2¾x4⅞ photos. List, sample for stamp. Wants photos C&NW 4-4-0s, any size. Write first, stating price.

MODEL TRADING POST

S. BLANC, 1350 Tennyson St., Denver 4, Colo., will sell *AF* 2-rail MU car almost compl., $12.50 Has motor, body, reverse; built from std. *AF* parts; needs details; 40-ft. steel O gage rail in 4-ft. lengths, $5; *AF* 300 *Atlantic* loco, $12.50; frt. cars $2.50 ea.; all new cond. Postage extra.

LARRY BUTTE, Box 86, Harborcreek, Pa., wants to buy brand new *AF* str., curved O gage trk.

DEWITT DYKES, 508 Temperance St., Knoxville, Tenn., has *Marx, Lionel* eqpmt.; send for list. Wants old *Model Builders, Lionel* catalogs. Send list, info.

IRA FISTELL, 839 East 52nd St., Chicago 15, Ill., has *Strealing* MoP, unused, side dump car, less trucks and couplers; will sell or trade for 1 pr. HO gage trucks.

JACK HOLST, 823 E. 10th St., Bend, Ore., has large *Lionel* O gage layout to sell or trade for HO; 5 locos, 30 cars, switches, trk. Write for list.

WESLEY A LANCASTER, 207 Bradman St., Auburn, Me., wants 0 6½, 7½ in. boxcars, reefers, *AF, Ives, Bing, Fandor, Lionel* 655, *Marx, GAEX, PRR* merchandise cars, *AF* Champion series, other cars. Write stating prices, cond.

L. J. REDMAN, 225 Harrison Ave., you did not complete your address.

JOSEPH SCHMOLL, Goebel Rd., New City, N. Y., will sell amusement park size steam train. Picture, details for 25c.

VINCENT SILLETTI, 1243 Tabor Court, Brooklyn, N. Y., wants *Lionel* prewar 072, 0 gage eqpmt.

A. D. SLATER, 1596 Wood Rd., Cleveland Heights 21, O., will sell *Buddy L* Loco and tender, stock car and 10 pieces str. trk., ea. 4 ft. long.

FLAGSTOPS

M. R. S. VETERANS ASSOC., having a membership of approximately 9000 of some 45,000 men who served with the Ry. service during the war, has outlined plans for an extensive membership campaign. All veterans who served with Ry. service units during World War II are eligible for membership and are invited to contact any of the group's officers for application blanks or further info. R. E. Godley, 135 East 11th Pl., Chicago; R. H. Major, 1623 East 82nd St., Cleveland; Carl N. Rydin, 605 Railway Exch. Bldg., Chicago.

UPPER CANADA RY. SOCIETY is issuing alternate Bulletins on steam and elec. Ry. topics, all photo-offset bulletins except TH&B, which was one of the first of this type, and includes a mimeographed section; either single page data sheet on a type of eqpmt., 10c ea., or compl. bulletin with history and roster on a company, 2 or more pages, 25c. There are 2 steam data sheets being prepared, one on the CNR'S 900 series 2-6-0s and one on the CPR's 2900 series 4-4-4s. Send orders in cash or money order (no checks) to W. C. Bailey, Chairman, Publications U.C.R.S., 2006 Queen St. East, Toronto 8, Ont., Canada.

SAVE UP TO 50% ON *New* ACCESSORIES FOR YOUR CAR!

New! Amazing MOTOR SENTINEL

GIVES YOUR CAR
- Better mileage
- More power
- Faster starts
- More speed

FREE LIFETIME GUARANTEE

DRIVE UP TO 3,000 MILES A YEAR . . . GAS FREE!

STOP WASTING GAS

REVOLUTIONARY MOTOR TUNE-UP GAUGE

Special Offer! $3.95

New Motor Sentinel is a Scientific Instrument designed to show the engine performance of your car. No needle, dial or numbers . . . just simple life-like action. Shows complicated engine operations in such a simple manner, that no one can fail to understand. With these facts, you can save up to 40% on gas mileage and repair bills. Actual tests show savings up to 4 gallons out of every 10 in gas alone! Mounts on dash in a few minutes. No holes to drill. Gives your dashboard that custom look. Causes comment wherever seen. Recommended by leading motor authorities. Limited quantity —Hurry.

New *New*

Introductory Offer $1.69

New WINDSHIELD WASHER

- LOWER IN COST
- EASIER TO INSTALL
- SIMPLER TO OPERATE

Guaranteed trouble free operation . . . out-performs $8.95 custom models. Can't clog . . . easy to refill. Visible fluid supply. One filling cleans windshield 35 times! Try 10 days on your car at our risk.

MAGIC GARAGE

$8.95 Heavy Duty

$10.95 Extra Heavy Duty

FREE 10 Day Trial!

ADDS YEARS TO CAR LIFE

100% VIRGIN VINYL

Travels with your car. Remove it from its small container . . . flip it on your car and presto, your car is enclosed in an insulated garage. Save time, work, money on car washing and polishing. Protect your car from rain, snow, sleet, sun, salt air, dirt, tree drippings. Built to last of long wearing first quality heavy gauge miracle plastic. Can't mildew, crack or peel. Perma-Grip bottom gives complete insulation. Fits all cars. Act now while supply lasts.

AUTO SEAT COVERS

SPECIAL OFFER! $2.98 COUPE OR FRONT SEAT

- Waterproof
- Stainproof
- Greaseproof
- Won't Burn

COMPLETE SETS $5

"MIRACLE PLASTIC" 6 LUSTROUS COLORS

RED • BLUE • GREEN • MAROON • LEOPARD • ZEBRA

Add instant class to your car! Snap on action holds 'em tight. Colors fast! Can't fade! Can't shrink! Easily washed with damp cloth. Order today. Give year and make of car . . . body style . . . color choice.

SEND NO MONEY! Just send name, address and items desired. pay postman plus postage or enclose cash, check or money order, we pay postage. Try 10 days on your car. Return for full refund of purchase price if not delighted. Order today while quantities last.

YOUNG PRODUCTS
DEPT. 219, 2605 ELMHURST
DETROIT 6, MICHIGAN

she'll Love you for it!

00-La-La

french negligee

She'll thrill you . . . she'll fill you with the magic of the night . . . in this daring French-style midnight black negligee! **Bewitching black lace** and net caress her enticing curves. Shimmering **sheer** black rayon reveals all her charms! Sparkling diamond-like buttons hug her waist. Give her **00-LA-LA** . . . she'll **love you** for every filmy inch of it!

ONLY **$9.98**

Oh, Frenchy

parisian chemise

Just imagine how exciting, how alluring she can look . . . in **"OH, FRENCHY,"** the thrilling French **peek-a-boo** lace Chemise that leaves just enough to the imagination! It's all **lace** . . . from dipping-dare neckline to bare slit hipline, perky with pink ribbon rosettes! Its elasticized back molds every lacy stitch of it to her curves . . . and lets her wear it straps off for bare-shoulder beauty. Let him know you want it. You'll get **"OH, FRENCHY"** and **love** every filmy inch of it.

ONLY **$7.98**

Naughty Naughty

frenche nightie

She'll look bewitching in **"NAUGHTY-NAUGHTY,"** the French-style nightie with the zip and zest of the Can-Can. Alluring **peek-a-boo black lace** reveals all her charms . . . clinging **sheer black rayon** caresses her every curve . . . and that oo-la-la single shoulder strap holds everything! Give her **"NAUGHTY-NAUGHTY"** . . . she'll **love you** for every filmy inch of it!

ONLY **$9.98**

Send No Money!

WILCO FASHIONS, Dept. C-74-C
45 East 17th St., New York 3, N. Y.

Please send me French Lingerie I have checked. If not entirely satisfied, I'll return within 10 days for cash refund.

NAME_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

00-La-La—$9.98 ☐

Oh, Frenchy—$7.98 ☐

Naughty-Naughty—$9.98 ☐

In Black Only

ORDER ON 10-DAY APPROVAL

Check Sizes Wanted:

☐ 32 ☐ 34 ☐ 36 ☐ 38 ☐ 40.

☐ Check ☐ M. O. or ☐ Cash enclosed. You pay delivery costs.

☐ Send C.O.D. I'll pay delivery costs.

Build a Fine Business...Full or Spare Time!

I'll Put a "Shoe Store Business" in Your Pocket!

You Don't Invest a Cent! I Furnish Everything **Free!**

Want to have lots of money in your pocket—always? Then rush the coupon below and start toward your own business. In many ways it's better than a retail store of your own! I plan to give it to you absolutely FREE. You don't invest a penny now or ever! Be in this highly profitable business QUICK!

HERE'S WHY IT'S BETTER!

As the direct factory man handling the quick-selling line of this 47-year old, million-dollar company you have a limitless market, because *everybody wears shoes.* Start by selling to relatives, friends, neighbors. That will prove the fine quality leathers—superb craftsmanship—money-saving value and unequalled comfort-fit! Then branch out on a big scale.

It's easy to fit folks in the exact style they want—no need to substitute—you draw on our huge factory stock of over 175,000 pairs.

Sales build up from friend to friend quickly like a snowball. Recommendations, repeat orders and new customers build you a big income in a surprisingly short time. No wonder some of our top Shoe Counselors make from $5 to $10 every hour they spend taking orders!

EXCLUSIVE FEATURES

People demand nationally advertised Mason Shoes because of exclusive comfort features, up-to-the-minute styling. Foamy-soft exclusive Velvet-Eez Air Cushion innersole makes walking a real pleasure—like "Walking on air!" Ten-second demonstration lets customer actually feel air cushion, brings quick sales! These splendid shoes bear famous Good Housekeeping Guarantee Seal.

Velvet-eez

MASON SHOE MFG. CO.

Dept. M-895.
Chippewa Falls, Wisc.

BIG, STEADY PROFITS FOR YOU—NO OVERHEAD!

You have the advantages of a profitable shoe store business *without* the expenses of rent, light, etc. You are independent and invest nothing but your time. Your generous profit is ALL YOURS! Even if you start in spare time, you will soon want to devote full time to this steady, repeat-order big-income business!

No Experience Needed—Make Money First Hour!

You need no experience to make money right away. Some men have made up to 20 sales the first day. You feature smart dress shoes, casual sport shoes, practical work and service shoes for men and women, boots and fine leather jackets, too.

Sell to service station and garage men, waiters, factory workers, waitresses, housewives—*everybody!* Such features as Rugged Horsehide Shoes, Neoprene Oil-Resistant Soles, Gro-Cork Slip-Resistant Soles, Steel Safety Toe shoes make Mason Shoes *easy* to sell!

SEND NOW!

I have a powerful Selling Outfit I'm going to send you absolutely FREE as soon as I receive your coupon. It includes Air-Cushion demonstrator, features Air-Cushion shoes, — other fast selling specialties. To take advantage of this opportunity, rush coupon NOW! You'll be glad you did!

SEND FOR FREE OUTFIT

Mr. Ned Mason, Sales Manager—Box M-895
Mason Shoe Mfg. Co.
Chippewa Falls, Wisc.

Please put a "Shoe Store Business" in my pocket by rushing FREE my Powerful Selling Outfit—so I can start making Big Money my very first hour!

Name .....

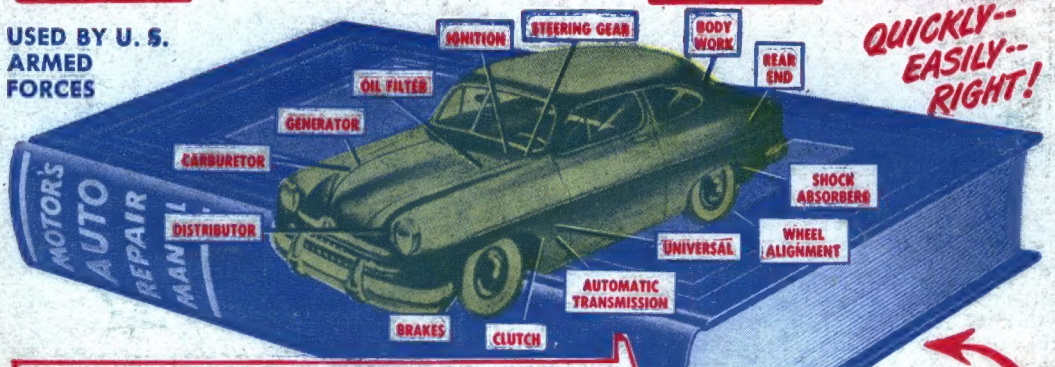
Address .....

Town ..... State .....

HOW TO FIX ANY PART OF ANY CAR

USED BY U. S. ARMED FORCES

QUICKLY-- EASILY-- RIGHT!



NOW—Whether You're a Beginner or an Expert Mechanic —You Can "Breeze Through" ANY AUTO REPAIR JOB! MoToR's BIG BRAND-NEW AUTO REPAIR MANUAL Shows You HOW—With 2300 PICTURES & SIMPLE STEP-BY-STEP INSTRUCTIONS.

Free 7-DAY TRIAL Return and Pay Nothing If Not Satisfied!

COVERS EVERY JOB ON EVERY CAR BUILT FROM 1935 THRU 1951

YES, it's easy as A-B-C to do any "fix-it" job on any car whether it's a simple carburetor adjustment or a complete overhaul. Just look up the job in the index of MoToR's New AUTO REPAIR MANUAL. Turn to pages covering job. Follow the clear, illustrated step-by-step instructions. Presto—the job is done!

No guesswork! MoToR's Manual takes nothing for granted. Tells you where to start. What tools to use. Then it leads you easily and quickly through the entire operation!

Same FREE Offer On MoToR's Truck and Tractor Manual

Covers EVERY job on EVERY popular make gasoline truck, tractor made from 1936 thru 1951. FREE 7-Day Trial. Check proper box in coupon.

short-cuts that will amaze you. No wonder this guide is used by the U. S. Army and Navy! No wonder hundreds of thousands of men call it the "Auto Repair Mans' Bible"!

Meat of Over 150 Official Shop Manuals

Engineers from every automobile plant in America worked out these time-saving procedures for their own motor car line. Now the editors of MoToR have gathered together this wealth of "Know-How" from over 150 Official Factory Shop Manuals, "boiled it down" into crystal-clear terms in one handy indexed book!

Covers 800 Models—All These Makes

Buick	Henry J.	Nash Rambler
Cadillac	Hudson	Oldsmobile
Chevrolet	Kaiser	Packard
Chrysler	Lafayette	Plymouth
Crosley	La Salle	Pontiac
De Soto	Lincoln	Studebaker
Dodge	Mercury	Terraplane
Ford	Nash	Willys
Frazer		

ALSO tune-up adjustments for others

Many Letters of Praise from Users

"MoToR's Manual paid for itself on the first 2 jobs, and saved me valuable time by eliminating guesswork."
—W. SCHROP, Ohio.

He Does Job in 30 Min.—Fixed motor another mechanic had worked on half a day. With your Manual I did it in 30 minutes."
—O. AUBERRY, Tenn.

Over TWO THOUSAND Pictures! So Complete, So Simple, You CAN'T Go Wrong!

BIG NEW REVISED Edition covers everything you need to know to repair 800 car models. 771 giant pages, 2300 "This-Is-How" pictures. Over 200 "Quick-Check" charts—more than 38,000 essential repair specifications. Over 225,000 service and repair facts. Instructions and pictures are so clear you *can't* go wrong!

Even a green beginner mechanic can do a good job with this giant manual before him. And if you're a top-notch mechanic, you'll find

Try Book FREE 7 Days

SEND NO MONEY! Just mail coupon! When the postman brings book, pay him nothing. First, make it show you what it's got! Unless you agree this is the greatest time-saver and work-saver you've ever seen —return book in 7 days and pay nothing. Mail coupon today! Address: *MoToR Book Dept., Desk 93D, 250 West 55th St., New York 19, N. Y.*

MAIL COUPON NOW FOR 7-DAY FREE TRIAL

MoToR BOOK DEPT.
Desk 93D, 250 W. 55th St., New York 19, N. Y.

Rush to me at once (check box opposite book you want):

☐ **MoToR's New AUTO REPAIR MANUAL.** If O.K., I will remit $1 in 7 days (plus 35c delivery charges), $2 monthly for 2 months and a final payment of 95c one month after that. Otherwise I will return the book postpaid in 7 days. (Foreign price, remit $8 cash with order.)

☐ **MoToR's New TRUCK & TRACTOR REPAIR MANUAL.** If O.K., I will remit $2 in 7 days, and $2 monthly for 3 months, plus 35c delivery charges with final payment. Otherwise I will return book postpaid in 7 days. (Foreign price, remit $10 cash with order.)

Print Name.....Age.....

Address.....

City.....State.....

☐ **Check box and save 35c shipping charge** by enclosing WITH coupon entire payment of $5.95 for Auto Repair Manual (or $8 for Truck and Tractor Repair Manual.) Same 7-day return-refund privilege applies.